ORDER NO. MD0501005C2

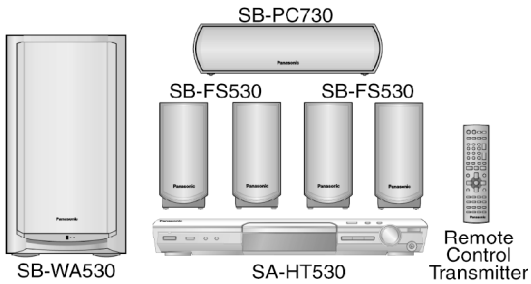
Service Manual

DVD Home Theater Sound System

SA-HT530EB

Colour

(S)...Silver Type



SPECIFICATIONS

Specification

■ **Amplifier Section**

RMS Output Power: Dolby Digital Mode

Front Ch

55 W per channel (6 Ω), 1 kHz, 10% THD

Surround Ch

55 W per channel (6 Ω), 1 kHz, 10% THD

Center Ch

160 W per channel (6 Ω), 1 kHz, 10% THD

Subwoofer Ch

220 W per channel (4 Ω), 100 Hz, 10% THD

Total RMS Dolby Digital Mode Power	**600 W**

DIN Output Power: Dolby Digital Mode

Front Ch

40 W per channel (6 Ω), 1 kHz, 1% THD

Surround Ch

40 W per channel (6 Ω), 1 kHz, 1% THD

Center Ch

120 W per channel (6 Ω), 1 kHz, 1% THD

Subwoofer Ch

150 W per channel (4 Ω), 100 Hz, 1% THD

Total DIN Dolby Digital Mode Power	**430 W**

■ **FM/AM Tuner, Terminals Section**

Preset station	**FM 15 stations** **AM/MW 15 stations**

Frequency Modulation (FM)

Frequency Range	**87.50-108.00 MHz (50-kHz step)**
Sensitivity	**1.5 μ V (IHF)**
S/N 26 dB	**1.2 μ V**
Antenna terminals	**75 Ω (unbalanced)**

Amplitude Modulation (AM/MW)

Frequency Range	**522-1629 kHz (9-kHz step)**
AM Sensitivity S/N 20 dB at 999 kHz	**560 μ V/m**

Phone Jack

Terminal	**Stereo, 3.5 mm jack**

■ **Disc Section**

Disc played [8 cm or 12 cm]

1. DVD-RAM (DVD-VR compatible, JPEG formatted disc)

2. DVD-Audio

3. DVD-Video

4. DVD-R, DVD-RW (DVD-Video compatible) + R, + RW (Video compatible)

5. CD-Audio (CD-DA)

6. Video CD

7. SVCD (Conforming to IEC62107)

8. CD-R/RW (CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted disc)

9. MP3/WMA*1

-Compatible compression rate:
MP3: between 32 kbps and 320 kbps
WMA: between 48 kbps and 320 kbps

10. JPEG*1

-Exif Ver 2.1 JPEG Baseline files

-Picture resolution: between 320 x 240 and 6144 x 4096 pixels (sub sampling is 4:2:2 or 4:2:0)

11. HighMAT Level 2 (Audio and Image)

***1 The total combined maximum number of recognizable audio and picture contents and groups: 4000 audio and picture contents and 400 groups.**

Pick up	
Wavelength	**CD 785 nm**
	DVD 662 nm
Laser power	**CLASS 2/CLASS 3A**
Audio output (Disc)	
Number of channels	**5.1ch (FL, FR, C, SL, SR, SW)**

■ **Video Section**

Video System	
Signal system	**PAL625/50, PAL525/60, NTSC**
Composite video output	
Output level	**1 Vp-p (75 Ω)**
Terminal	**Pin jack (1 system)**
	Scart jack (1 system)
S-video output	
Y output level	**1 Vp-p (75 Ω)**
C output level	**PAL; 0.3 Vp-p (75 Ω)**
	NTSC; 0.286 Vp-p (75 Ω)
Terminal	**S terminal (1 system)**
	Scart jack (1 system)
Component Video Output (480p/480i)	
Y output level	**1 Vp-p (75 Ω)**
P_B output level	**0.7 Vp-p (75 Ω)**
P_R output level	**0.7 Vp-p (75 Ω)**
Terminal	
	Pin jack (Y: green, P_B: blue, P_R: red) (1 system)
RGB video output	
R output level	**0.7 Vp-p (75 Ω)**
G output level	**0.7 Vp-p (75 Ω)**
B output level	**0.7 Vp-p (75 Ω)**
Terminal	**Scart jack (1 system)**

■ **General**

Power Supply	**AC 230-240 V, 50 Hz**
Power consumption	**25 W (SA-HT530), / 250 W (SB -WA530)**
Dimensions (W x H x D)	**430 x 60 x 348.3 mm**
Mass	**2.7 kg (SA-HT530)**
Operating temperature range	**+5 °C to +35 °C**

Operating humidity range

5 % to 90 % RH (no condensation)

Power consumption in standby mode: approx. 0.7 W

***2 Rating with low cut filter equipped amplifier**

■ **System**

SC-HT530 (EB) **Main unit: SA-HT530 (EB)**

Satellite speakers: SB-HT530 (EB)

Active subwoofer: SB-WA530 (EB)

Satellite speakers: SB-HT530 (EB)

Front speakers: SB-FS530 (EB) x 2

Surround speakers: SB-FS530 (EB) x 2

Center speaker: SB-PC730 (P-S1) x 1

Note:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.

2. Total harmonic distortion is measured by the digital spectrum analyzer.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. Caution for AC Mains Lead

(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use
Remove the connector cover.

How to replace the fuse
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

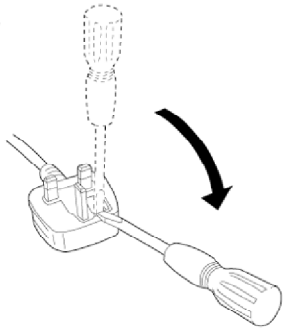
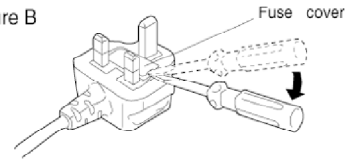


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

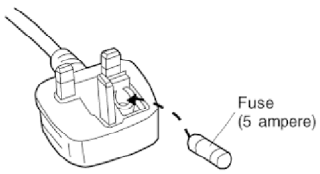
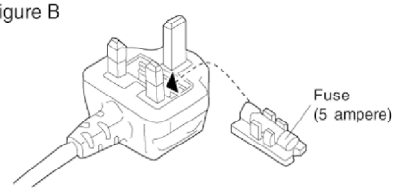


Figure B

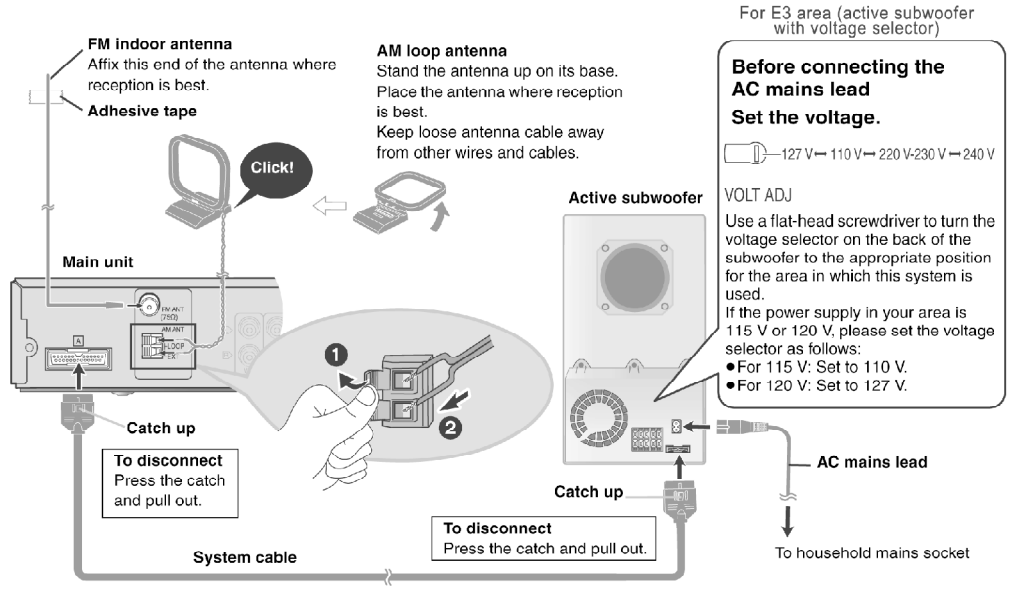


2. Use of Active Subwoofer

2.1. Checking Main Unit when Active Subwoofer is Used

●**Connect the AC mains lead after all other connections are complete.**
●**Optional antenna connections.**

The illustration shows SC-HT530.


For E3 area (active subwoofer with voltage selector)
FM indoor antenna
Affix this end of the antenna where reception is best.
Adhesive tape
AM loop antenna
Stand the antenna up on its base.
Place the antenna where reception is best.
Keep loose antenna cable away from other wires and cables.
Click!
Active subwoofer
Before connecting the AC mains lead
Set the voltage.
127 V 110 V 220 V-230 V 240 V
VOLT ADJ
Use a flat-head screwdriver to turn the voltage selector on the back of the subwoofer to the appropriate position for the area in which this system is used.
If the power supply in your area is 115 V or 120 V, please set the voltage selector as follows:
●For 115 V: Set to 110 V.
●For 120 V: Set to 127 V.
Main unit
1
2
Catch up
To disconnect
Press the catch and pull out.
AC mains lead
Catch up
To disconnect
Press the catch and pull out.
System cable
To household mains socket

Conserving power

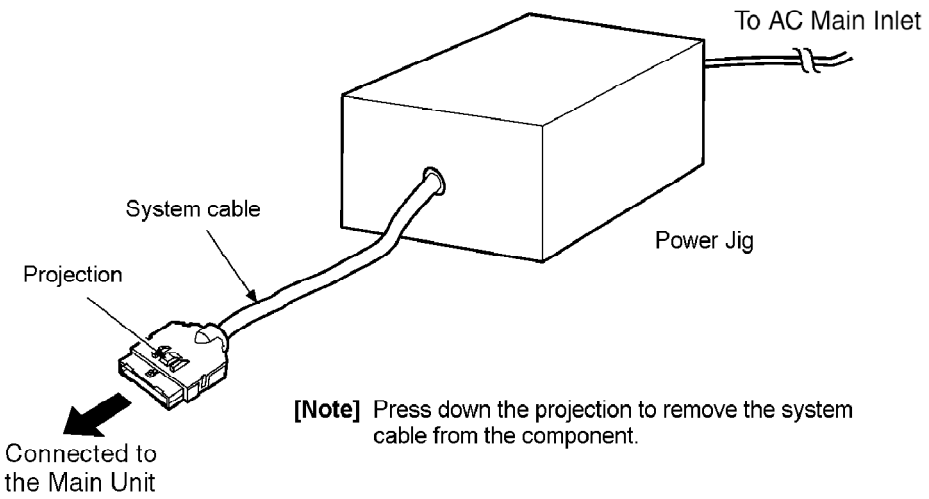
The main unit consumes a small amount of power, even when it is turned off (For the United Kingdom, Australia and N.Z.: approx. 0.7 W or for Southeast Asia, Thailand, the Middle East, South Africa, Saudi Arabia and Kuwait: approx. 0.9 W). To save power when the unit is not to be used for a long time, unplug it from the household mains socket.
You will need to reset some memory items after plugging in the unit.

Note

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

2.2. Checking Main Unit Using Power Jig

If the active subwoofer is not available during time of repair to the unit, the following equipment could be used.


To AC Main Inlet
System cable
Power Jig
Projection
Connected to the Main Unit
[Note] Press down the projection to remove the system cable from the component.

Jig product number

RFKZ0182 (110V , 127V, 220V, 230V - 240V for with voltage selector overseas domestic use).

3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C2080 through a 10 Ω, 10 W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at AC 230V-240V, 50Hz in NO SIGNAL mode should be ~850 mA (Active Subwoofer).

4. SAFETY PRECAUTIONS

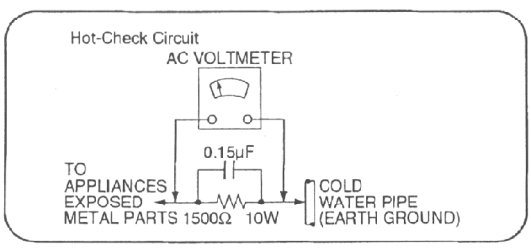
4.1. GENERAL GUIDELINES

1. **When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.**
2. **After servicing, ensure that all the protective devices such as insulation barriers, insulation papers shields are properly installed.**
3. **After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.**

4.1.1. LEAKAGE CURRENT COLD CHECK (FOR ACTIVE SUBWOOFER)

1. **Unplug the AC cord and connect a jumper between the two prongs on the plug.**
2. **Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M Ω and 5.2 Ω . / When the exposed metal does not have a return path to the chassis, the reading must be ∞ .**

Fig. 1



4.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k Ω , 10 watts resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

5. Handling the Lead Solder

5.1. About lead free solder (PbF)

Distinction of PbF P.C.B. :

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point that standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. / Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

6. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.

- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are
"shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.
If this occurs, follow the procedure outlines below:

1. **Turn off the power.**
2. **Determine the cause of the problem and correct it.**
3. **Turn on the power once again after one minute.**

Note :
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

7. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. **Immediately before handling any semiconductor component or semiconductor-equiped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.**
2. **After removing an electrical assembly equiped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.**
3. **Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
4. **Use only an anti-static solder remover device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge to damage ES devices.**
5. **Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**

6. **Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).**
7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.**

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. **Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).**

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are imporant for safety.
These parts are marked by ⚠ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

8. Cautions to Be Taken When Handling Optical Pickup

- The laser diode used inside the optical pickup could be destroyed due to static electricity (potential difference is caused by electrostatic load discharged from clothes and human body). Handle the parts carefully to avoid electrostatic destruction during repair & during replacement.

8.1. Handling Optical Pickup

1. **Do not cause any strong impact on optical pickup as the unit structurally uses an extremely precise technology.**
2. **Short-circuit the flexible cable of optical pickup removed from the circuit board using a short-circuit pin or clip in order to prevent laser diode from electrostatic destruction. (Refer to Fig. 8-1 and**

Fig. 8-2.)

3. **Do not handle flexible cables forcibly as this may cause snapping. Handle the parts carefully. (Refer to Fig. 8-1)**
4. **A new optical pickup is equipped with an anti-static flexible cable. After replacing and connecting to the flexible board, cut the anti-static flexible cable. (Refer to Fig. 8-1)**

Fig. 8-1

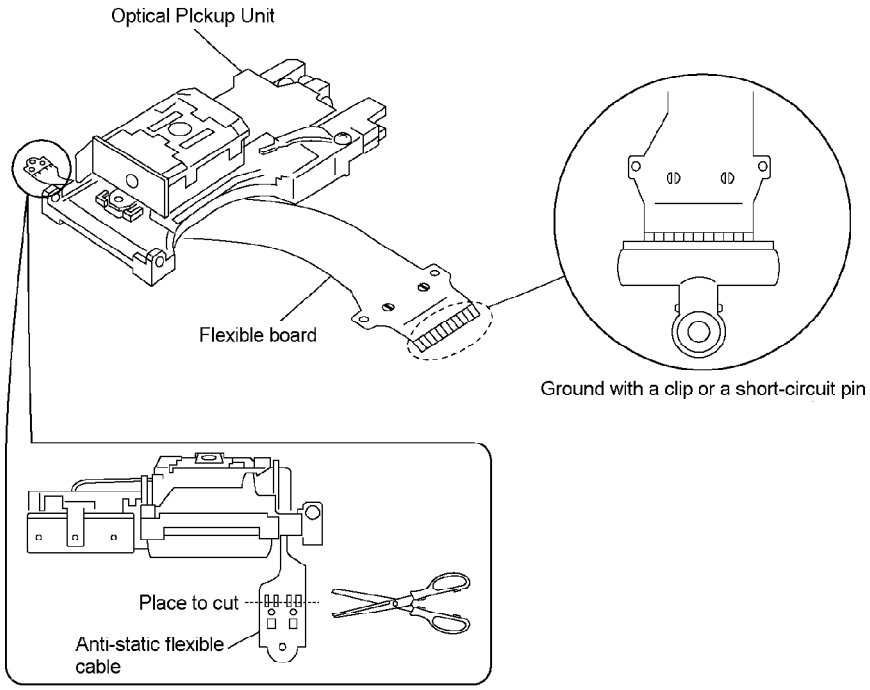
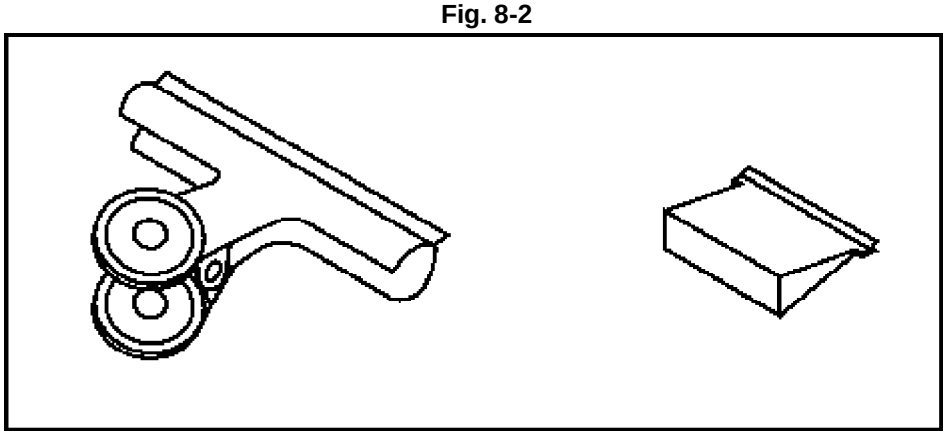


Fig. 8-2



Clip or shorting pin

8.2. Cautions to Be Taken During Replacement of Optical Pickup

Supplied optical pickup is equipped with a short clip found at the end of flexible cable in order to prevent electrostatic destruction of laser diode. Before connection, remove the short clip, and check that the short land is opened (remove solder if the part is short-circuited). Also ensure

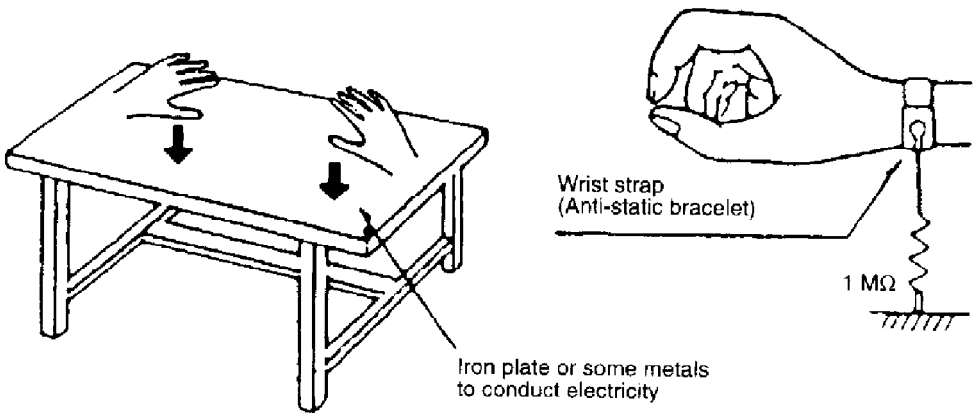
human body is properly ground (Refer Section 8.3)

8.3. Grounding for Preventing Electrostatic Destruction

1. Human body grounding
   Use an anti-static wrist strap to release static electricity accumulated in your body. (Refer to Fig. 8-3)
2. Workplace grounding
   Place a conductive material (conductive sheet) or iron board where optical pickup is placed. (Refer to Fig. 8-3)

Note:
Keep your clothes away from optical pickup as wrist strap does not release the static electricity charged in clothes.

Fig. 8-3



9. Precaution of Laser Diode

CAUTION :

This product utilizers a class 1 laser. Invisible laser radiation is emitted from the optical pick up lens.
When the unit is turned on:
Wavelength : 662nm/785nm
Maximum output radiation power from pick up : 100 μ W/VDE

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.

4. Recommend not to look at pick up lens for a long time.

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im enigeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt. / Wellenlänge : 662nm/785nm / Maximale Strahlungsleistung der Lasereinheit : 100 μ W/VDE / Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

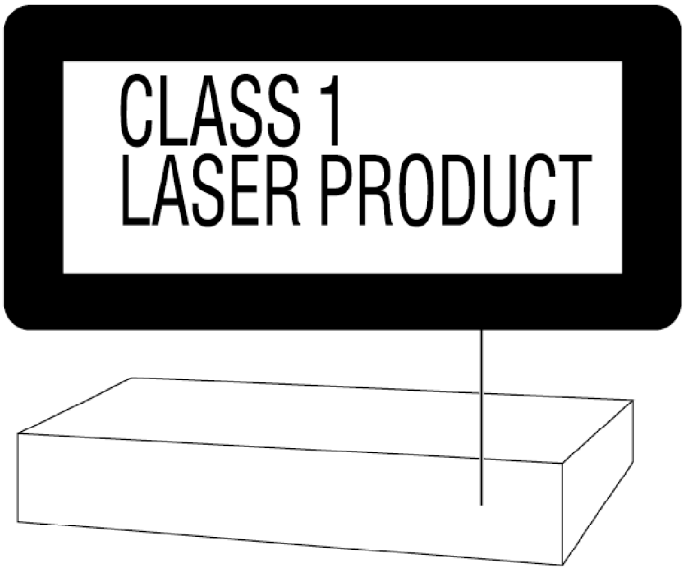
1. **Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.**
2. **Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.**
3. **Nicht mit optischen Instrumenten in die Fokussierlinse blicken.**
4. **Nicht über längere Zeit in die Fokussierlinse blicken.**

ADVARSEL: I dette a apparat anvendes laser.

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THC SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ **Use of Caution Labels**



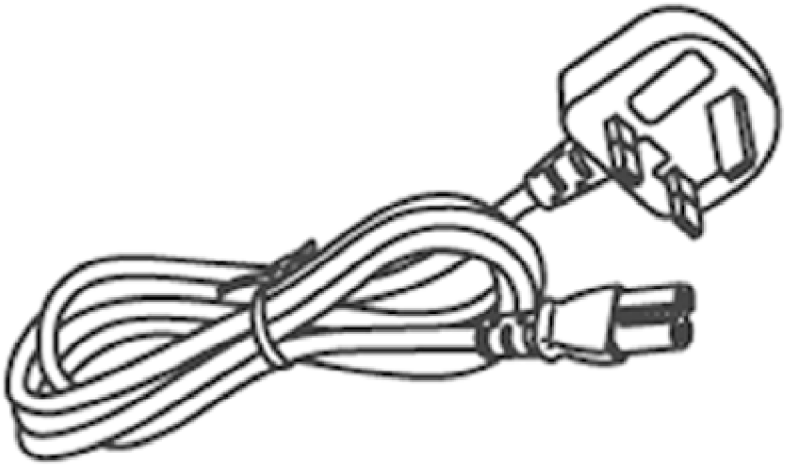
(Back of product)

CAUTION	–	LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	–	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b
VARNING	–	SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	–	SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL	–	SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARO!		AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VORSICHT	–	SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ATTENTION	–	RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注意	–	打开时有可见及不可见激光辐射。避免激光束照射。
注意	–	ここを開くと可視及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。

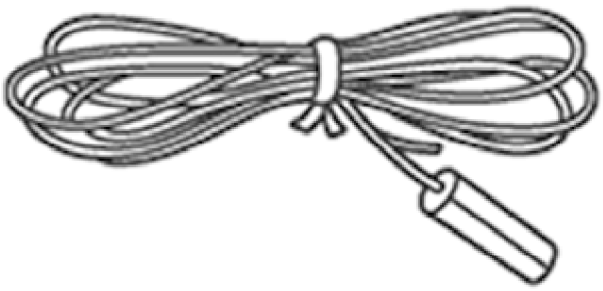
(Inside of product)

10. Accessories

AC cord



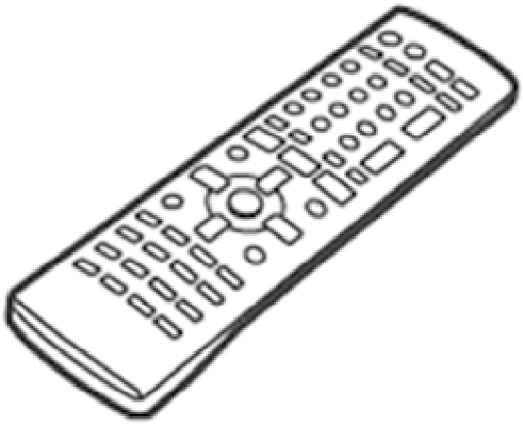
FM indoor antenna



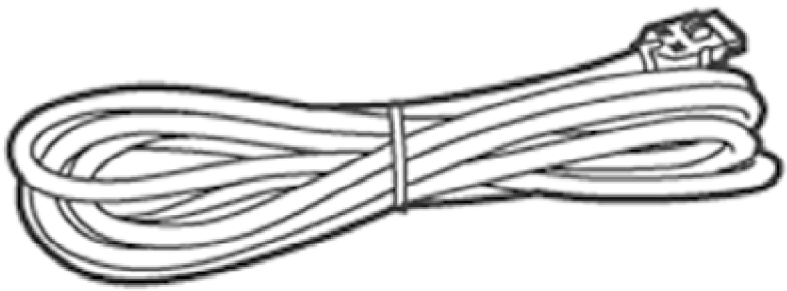
AM loop antenna

Video cable

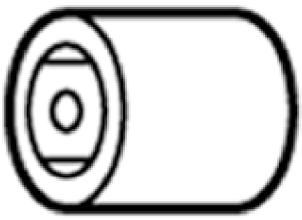
Remote control



System cable



Antenna plug adaptor



11. Remote Control Reference

12. Disc information

13. About HighMAT

13.1. What's HighMAT?

Consumers worldwide are using PCs to create their own collections of music, photos and even video by burning them onto CDs. But how these collections can be experienced across different devices can be confusing to navigate, time consuming to access for a DVD player, and be incomplete in terms of music information available to the customer.
HighMAT offers a solution to this growing consumer problem. HighMAT dramatically improves the digital media experience on consumer electronic devices by delivering a simple, standardized approach that allows consumers who have created personal collections of digital music, photography and video on their PC to:

- **Create a HighMAT CD or DVD which can be easily played back on consumer electronics devices such as CD and DVD players, and car stereos.**
- **Move digital media files (using recordable media such as CD-R and CD-RW) between the PC and various playback devices such as CD and DVD players.**

A new standard for creating personal media on consumer electronic devices, HighMAT enable easier and more seamless interoperability between Windows PCs and devices designed for your living room, or the car.

HIGH
M·A·T
HighMAT is a new technology which has been co-developed and is supported by Microsoft Corporation and Matsushita Electric Industrial Co., Ltd. (Panasonic). HighMAT stands for High-Performance Media Access Technology. Look for the HighMAT logo on electronics devices - there are three levels of playback support for consumer electronics devices.
HighMAT Official Website

HighMAT Audio
Products which display this logo are able to play back HighMAT audio content only (WMA, MP3)

HighMAT Audio and Image
Products which display this logo are able to play back HighMAT audio content (WMA, MP3) and still pictures (JPEG) only

HighMAT Audio, Image and Video
Products which display this logo are able to play back all three types of HighMAT content: Audio (WMA, MP3), still pictures (JPEG) and video (WMV, MPEG-4※)
※MPEG-4: support is optional

13.2. Why take advantage of HighMat?

A Problem Defined:Today, when consumers create their own digital audio, video or photo collections on CD-R or other physical formats, there are numerous, inconsistent ways that devices read the data. For the consumer, the playback experience can be confusing:

- Many consumer electronics devices do not support playlists or advanced playback options such as the ability to access content by date or genre.
- The user interface for accessing the media and any associated information (including playlists, folders, music metadata and more) may vary between different devices.
- Large collections of music, videos or photos may take several minutes for a CD or DVD player to read.
- Discs may be unplayable because the compressed media format is not supported by the playback device or the disc layout is incompatible.

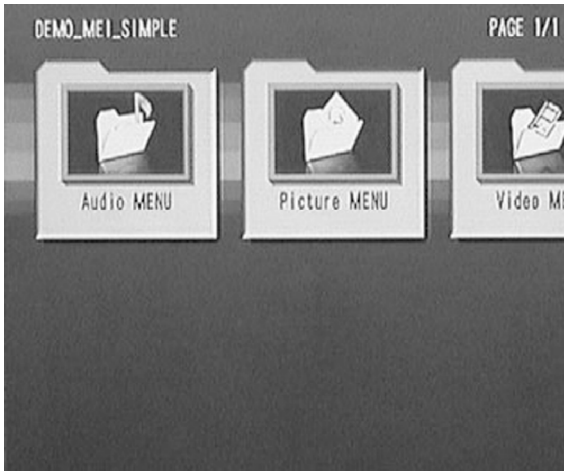
A Solution Created: HighMat delivers a better digital media access experience by creating a standard approach for PCs to structure digital media on various physical formats and for playback devices to read the data.

A Solution Created:HighMAT delivers a better digital media access experience by creating a standard approach for PCs to structure digital media on various physical formats and for playback devices to read the data.

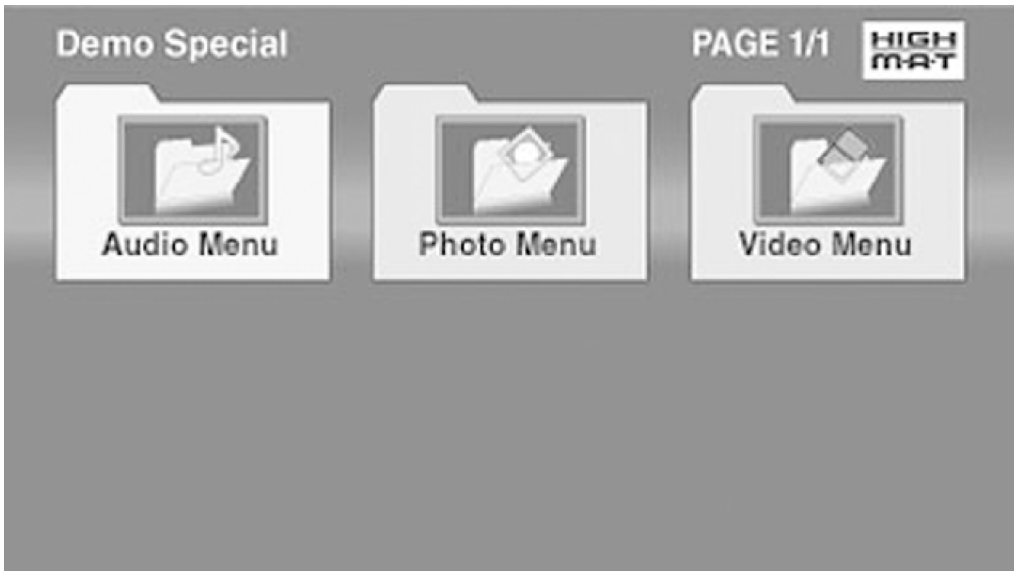
▸ Benefits of HighMAT

13.3. Benefits of HighMat?

1 Creating a HighMAT CD makes it easier to navigate different types of media you want to burn onto a CD (Photos, Music).

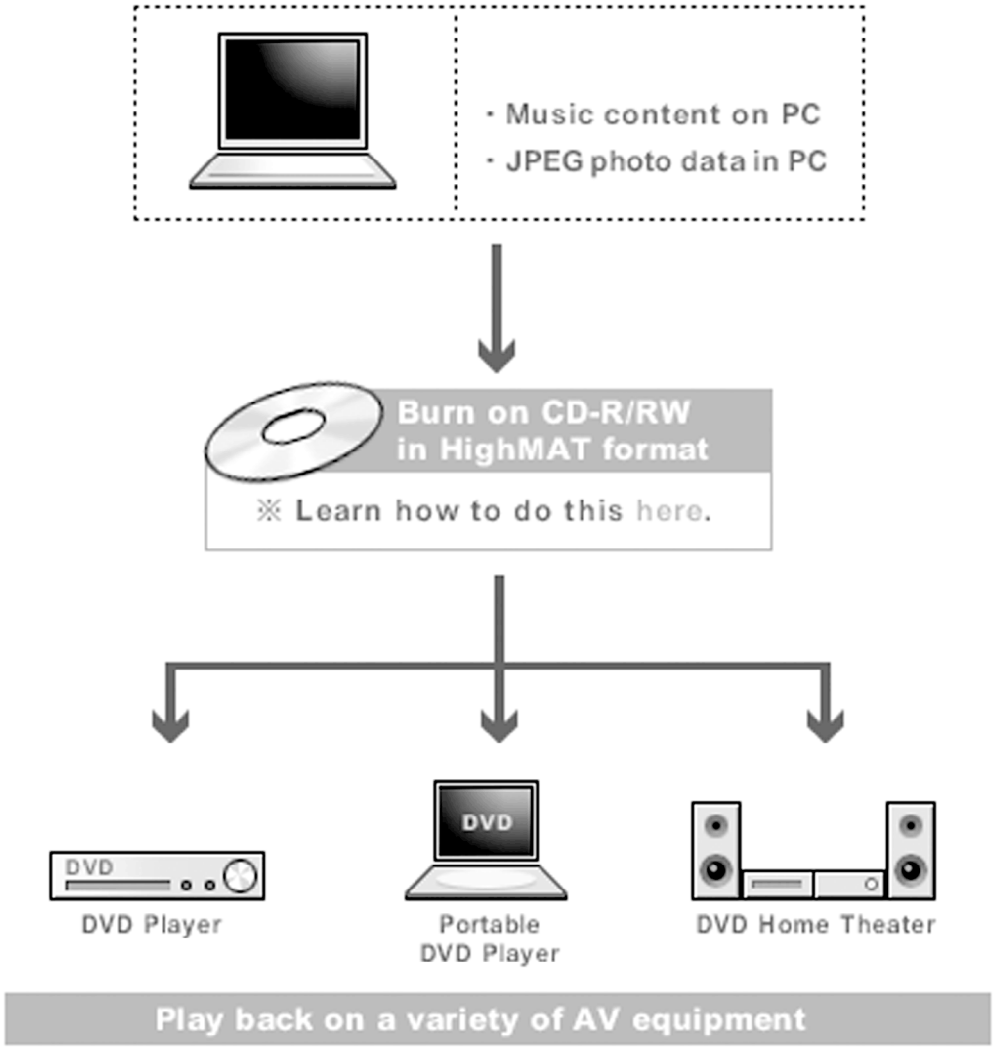
Conventional	HighMat
Even though DVD player is CD-R/RW compatible, the inconsistent ways that various DVD players can read the music or photos files often leads to a confusing and inconsistant playback experince.	HighMAT compatible products play content b with consistent interface. This includes produ which are JPEG compatible products without HighMAT support.
	

2 Eliminates compatibility issues and delivers better more consistent access to more music information like artist, song name, genre and photo information (metadata) as well as provide faster access to large amounts of music and photo files burned on CDs.



Easy navigation to access disc contents

3 HighMAT CDs can also work on other players.



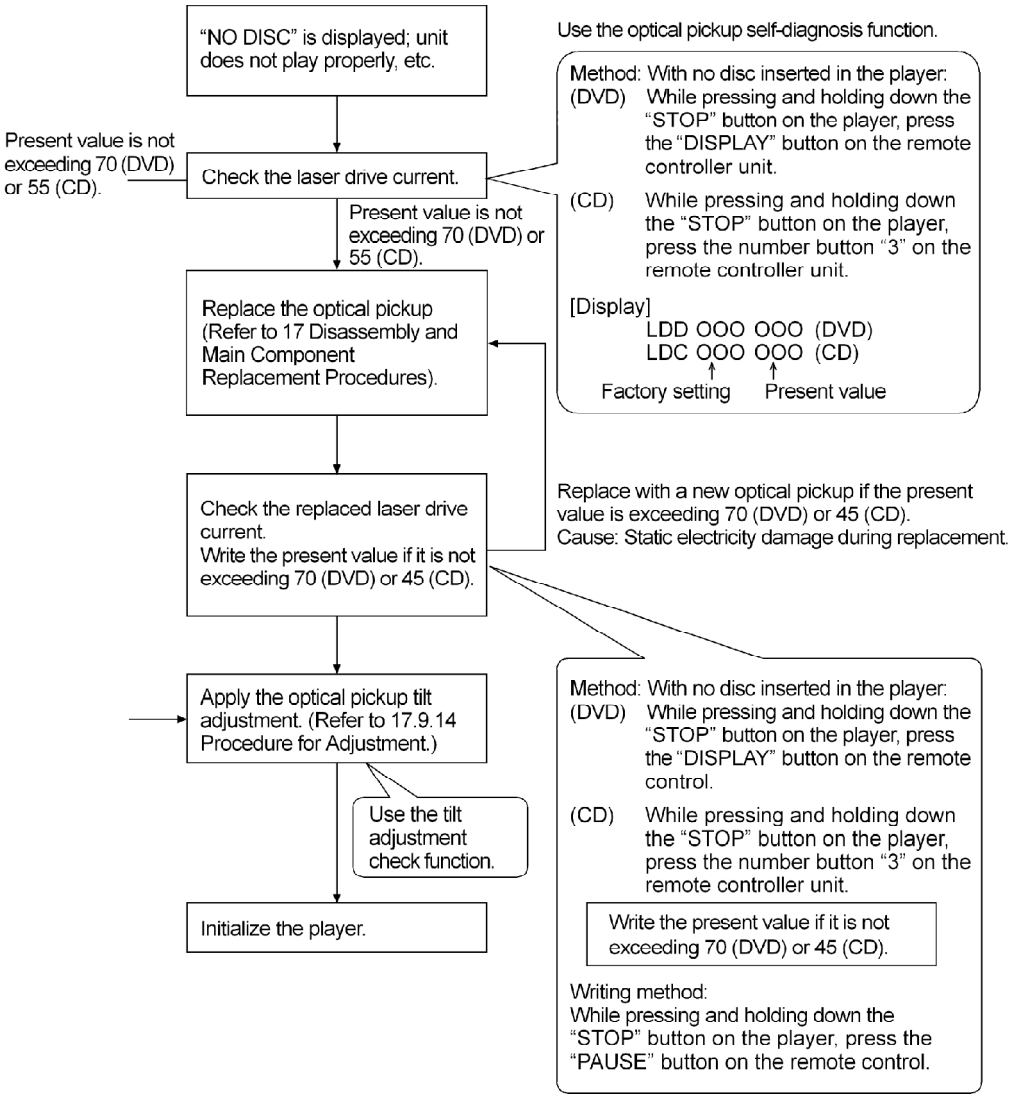
HighMAT is now available for CD Burning and in Leading DVD Players.HighMAT is a new technology that is now available in leading software and consumer electronic devices to dramatically improve the digital media experience when you create homemade CDs.
HighMAT ™ delivers a simple, standardized way for PC software and consumer electronics devices to talk to each other and work better together.
When you create your homemade CDs with software that supports HighMAT CD burning, and then play them back on a DVD player that supports HighMAT, you get better, easier navigation. You get folders you can access with a single click of your DVD player's remote control. You can view important information about your music like full song names, artist titles, album names and genre. And you can get faster startup on your home entertainment device.
To enjoy the benefits of HighMAT, all you need is software that supports HighMAT for CD burning of music or photos, as well as a home entertainment device like a DVD player that supports HighMAT for playback. Always look for the HighMAT logo on your software or home entertainment device to ensure it supports the HighMAT experience.

14. Optical Pickup Self-Diagnosis and Replacement Procedure

14.1. Self-diagnosis

This unit is equipped with the optical pickup self-diagnosis function and the tilt adjustment check function. Follow the procedure described below during repair in order to perform self-diagnosis and tilt adjustment effectively. Especially when "NO DISC" is displayed, be sure to apply the self-diagnosis function before replacing with an optical pickup. Replacement of optical pickup generally requires when the present value of laser drive exceeds 70 (DVD) or 55 (CD).

Note:
Start diagnosis within three minutes after turning on the power (as diagnosis fails when the unit becomes warm).


"NO DISC" is displayed; unit does not play properly, etc.
Check the laser drive current.
Present value is not exceeding 70 (DVD) or 55 (CD).
Present value is not exceeding 70 (DVD) or 55 (CD).
Replace the optical pickup (Refer to 17 Disassembly and Main Component Replacement Procedures).
Check the replaced laser drive current.
Write the present value if it is not exceeding 70 (DVD) or 45 (CD).
Apply the optical pickup tilt adjustment. (Refer to 17.9.14 Procedure for Adjustment.)
Use the tilt adjustment check function.
Initialize the player.
Use the optical pickup self-diagnosis function.
Method: With no disc inserted in the player:
(DVD) While pressing and holding down the "STOP" button on the player, press the "DISPLAY" button on the remote controller unit.
(CD) While pressing and holding down the "STOP" button on the player, press the number button "3" on the remote controller unit.
[Display]
LDD OOO OOO (DVD)
LDC OOO OOO (CD)
Factory setting
Present value
Replace with a new optical pickup if the present value is exceeding 70 (DVD) or 45 (CD).
Cause: Static electricity damage during replacement.
Method: With no disc inserted in the player:
(DVD) While pressing and holding down the "STOP" button on the player, press the "DISPLAY" button on the remote control.
(CD) While pressing and holding down the "STOP" button on the player, press the number button "3" on the remote controller unit.
Write the present value if it is not exceeding 70 (DVD) or 45 (CD).
Writing method:
While pressing and holding down the "STOP" button on the player, press the "PAUSE" button on the remote control.

14.2. Cautions to Be Taken During Replacement of Optical Pickup and Spindle Motor

Before replacing the optical pickup and spindle motor, check the total usage time respectively. Follow the checking method described as below.

Item	Status and Key Function	Display
Checking DVD, CD laser usage time	With the unit stopped and no disc inserted, press the. ■ button on the player and the ▲ button on the remote controller unit.	T1_xxxx_yyyy / xxxx(DVD), yy total time is displayed with a f digit number by the ten hours
Checking spindle motor usage time	With the unit stopped and no disc inserted, press the ■ button on the player and the ▶ button on the remote controller unit.	T2_xxxx / xxxx: total time is d with a four-digit number by th hours.
Resetting DVD, CD laser usage time	While the DVD and CD laser usage times are displayed, press the ■ button on the player and the ▼ button on the remote controller unit.	T1_0000_0000
Resetting spindle motor usage time	While the spindle motor usage time is displayed, press the ■ button on the player and the ◀ button on the remote controller unit.	T2_0000

14.2.1. Cautions to be taken during replacement of optical pickup

Optical pickup could be damaged due to the static electricity discharged from human body. Wear proper protection gear against static electricity during optical pickup and its peripheral repair. (Refer to "Cautions to Be Taken When Handling Optical Pickup".)

- Do not touch laser diode, actuator and their peripherals.

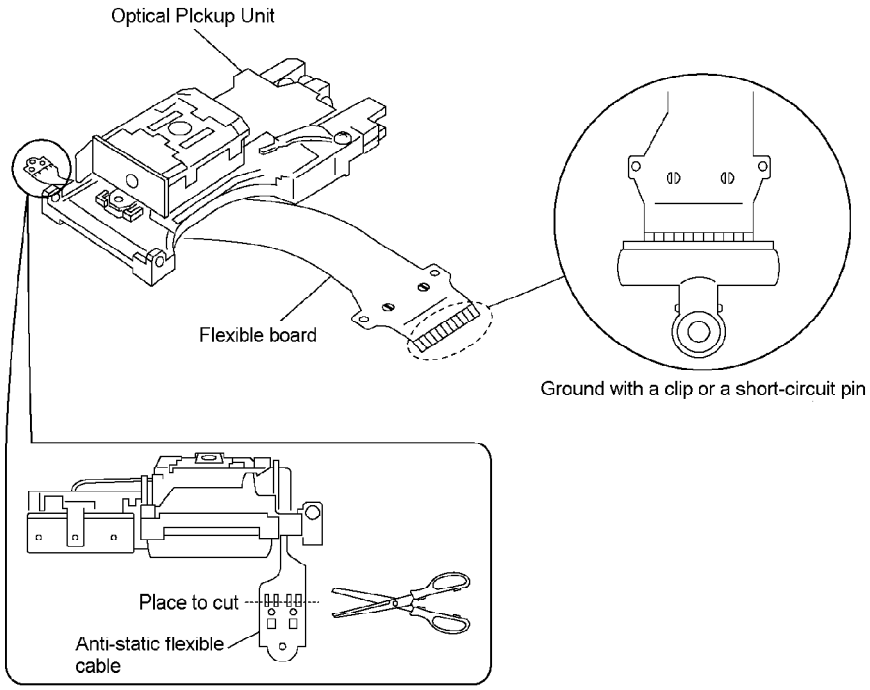
- Do not check laser diode with a tester and such. (The tester will be destroyed.)

- For short-circuiting or removing laser diode, the use of an anti-static soldering iron is recommended. (Recommended model: HAKKO ESD product)

- Solder the land of the flexible cable in the optical pickup.

Note:

If an anti-static soldering iron is not available, short-circuit the terminal surface of the flexible cable and then the land using a clip or equivalent device.



15. Self-Diagnosis Function

This unit is equipped with the self-diagnosis function, which displays an error when it occurs, for use during servicing.

15.1. Automatic Displayed Error / Codes

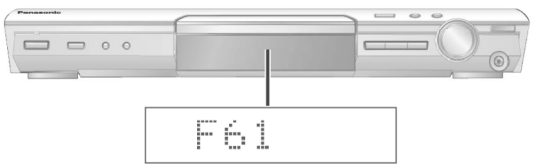
15.1.1. Automatic Display Function

For a power unit error, the code is automatically displayed.

F61:

Automatically displayed on the LCD of the player.

Fig. 15-1



15.1.2. Re-Display

- For F61 Display

- When the code, F61 is displayed, the power is automatically turned off.

- The code, F61 is displayed for three seconds, and then the current time appears.

- To retrieve the code, turn on the power button so that the code F61 appears, however, is switched to time display after three seconds,

and the power is automatically turned off.

15.1.3. Description of Error Code

15.1.3.1. F61

- State, Condition

  When the power is turned on, the unit is automatically turned off. The power does not turn on.

- Cause, Troubleshooting

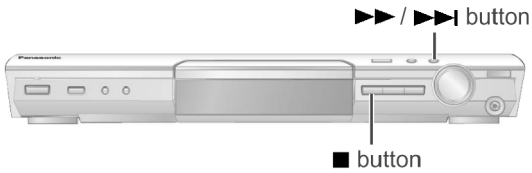
  Power circuit system failure and/or direct current flown to speaker terminal / Identify the cause and replace with new parts.

15.2. Memorized Error Codes

15.2.1. Activating Self-Diagnosis Function and Displaying Method

1. Turn on the power.
2. Select DVD/CD function. With no DVD/CD inserted in the player, press and hold down the ■ button for at least two seconds, and press the F_SKIP ▶▶| button for at least two seconds in order to display "T_____".
3. Press the ■ button. If a memorized error is detected, the result of self diagnosis is displayed. (Ex.: T H15) (See table below) / If several errors are detected, press the ■ button to display each.

Fig. 15-2



15.2.2. Re-Display

- Press the power button to turn off the power, and then turn on the power.
- The details of self diagnosis are stored in the unit memory. / To retrieve them, follow the procedure described the above, "Activating Self-Diagnosis Function and Displaying Method".

15.2.3. Deleting Details of Self Diagnosis

- After repair, press and hold down the ■ button for at least five

seconds, “T___ --- __” appears for a second and then “T_____” appears. (Deleting the details of self diagnosis)

- After repairing errors, be sure to delete the details of self diagnosis.

Error Code	State, Conditon	Cause, Troubleshooting
H15	The disc tray cannot be opened: it closes spontaneously.	Disc tray open/close detection switch (S S902) failure. / (Check and replace)
H16	The disc tray cannot be closed: it opens spontaneously.	

15.3. Mode Table 1

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Player	Remote controller unit	Usage
■ button	0	Error code display (Refer to the item, 15.4. DVD Error Code Desc
	5	Tilt adjustment
	6	Area number and broadcasting system check
	7	MICRO - P & Firmware Version.
	DISPLAY	DVD laser drive current check
	3	CD laser drive current check
	PAUSE	Writing of laser drive current value after replacement of optical p (Do use this function only when optical pickup is replaced.)
	≧10	Initialization of the player (factory setting is restored.) / Used aft replacement of micro-computer and its peripherals and printed c board.

15.4. DVD/CD Self-Diagnosis Error Code Description

Error Code	Meaning	Details
U. H. Error		
U11	Focus servo failure	
H01	Tray loading failure	
H02	Spindle servo failure	(Spindle servo, DSC, SP motor, CLV servo failu
H03	Traverse motor failure	
H04	Tracking servo error	
H05	Seek timeout failure	
DSC system		
F500	DSC failure	DSC stops due to servo failure. / (Startup, focu etc.)
F501	DSC not Ready failure	Communication failure between DSC and syst computer / (No communication because DSC c move)
F502	DSC Time out failure	See F500.
F503	DSC communication failure	Communication failure (Result failure occurs a communication command is transmitted.)
F505	DSC Attention Error	See F500.
F506	Invalid media	Disc is placed upside down; TOC is unreadabl invalid disc is inserted.
ODC system		
F600	Unable to obtain control information due to form recovery failure	Operation stops because navigation data canr obtained due to form recovery system failure.
F601	Illegal sector ID requested	Operation stops because access of illegal ID d requested.
F602	Unable to obtain LEAD IN due to form recovery failure	Unable to read LEAD IN data
F603	Unable to obtain KEY DET due to form recovery failure	Unable to obtain CSS data
F610	ODC failure	No permission of command issue
F611	No CRC OK appearing for a certain time	Unable to obtain seek address at CD system
F612	No CRC OK appearing for a certain time	Unable to obtain ID data at DVD system
Disc Code		
F103	Ilegal highlight position	Disc standard is possibly illegal when highligh displayed.
IIC Error		
F4FF	Forced initialization failure (Time out)	
Micro-computer Error		
F700	MBX overflow	When replying a message to Disc Manager
F701	Unable to complete a message command	A message is issued before replying to Disc M
F702	Change in a message command	A message is issued before replying to Disc M
F880	Unsuitable task number	When a message arrives from not existing tasl

Error Code	Meaning	Details
F890	A message is sent during AV task transmission	During transmission of a message to AV task
F891	Unable to transmit a message to AV task	When transmission of a message to AV task st
F893	FROM altered	
F894	EEPROM failure	
F8A0	Unsuitable message command	When transmission of a message to AV task st

15.5. Mode Table 2

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Item	Operational Condition and Key Function	Details	Display	To
Jitter display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button, “5” on the remote controller unit.	Jitter display / Measures and displays jitter. Measurement is repeated every second. Read error counter starts at 0 at the mode setting, and increased by one as data read fails at target block. A small defect is allowed to correct by retry. Any possibility is counted as one increment. Repetitive errors after retry increase by two levels or more.	J*1 xxx*2 _yyy*3 _zz*4 / / *1 : Jitter display mode / *2 : Jitter measurement value / *3 : Read error counter / *4 : Focus driving value Values are shown to one decimal place in the decimal digit.Focus driving value is displayed in the hexadecimal digit.	Pres STC OPE
Error code display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button, “0” on the remote controller unit.	Error code display / Displays the latest error code stored in EEPROM.	DVDnn_F--- / *nn: Error history / *--: Error number	Aut exit moc five

Item	Operational Condition and Key Function	Details	Display	To
Measurement of laser current electricity initialization value	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the ❚❚ button on the remote controller unit.	Measurement of laser current electricity initialization value / Memorizes each initialization value of DVD and CD in EEPROM.	DO*1 _034*2 _028*3 / / *1 : Laser current electricity measurement mode / *2 : DVD current electricity value / *3 : CD current electricity value Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is 34mA at DVD laser and 28mA at CD laser when laser is turned on.	Aut exit mod five
Measurement of DVD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the DISPLAY button on the remote controller unit.	Measurement of DVD laser current electricity / Measures DVD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, DVD laser is lit till the power is turned off (or goes off when the primary power is turned off).	DD*1 _034*2 _032*3 / / *1 : DVD laser current electricity measurement mode / *2 : Current electricity initialization value stored in EEPROM / *3 : Present value of current electricity Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is 34mA and its present value is 32mA.	Aut exit mod five
ADSC internal RAM display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button “1” or “2” on the remote controller unit.	ADSC internal RAM display / Reads and displays the RAM value inside ADSC. The address is renewed when the CLEAR key is pressed so that the values at eleven points appear.	A*1 _0FA*2 _6901*3 / / *1 : ADSC internal RAM display mode / *2 : Address / *3 : RAM value at displayed address Values are shown in the hexadecimal digit. The above example indicates that ADSC value at the address, 0FAh is 6901h.	Pres STC OPE

Item	Operational Condition and Key Function	Details	Display	To
Measurement of CD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button “3” on the remote controller unit.	Measurement of CD laser current electricity / Measures CD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, CD laser is lit till the power is turned off (or goes off when the primary power is turned off).	DC*1 _028*2 _026*3 / / *1 : CD laser current electricity measurement mode / *2 : Current electricity initialization value stored in EEPROM / *3 : Present value of current electricity Values are shown in the decimal digit. The above example indicates the current electricity initialization value is 28mA and its present value is 26mA when laser is turned on.	Aut exit moc five
User initialization	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button ≧10 on the remote controller unit.	User initialization / The user setting recovers the factory setting.	“INITIALIZED”	Non
Region display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button, “6” on the remote controller unit.	Region display	__w*1 _x*2 y*3 _zzz*4 / / *1 : Region number / *2 : N; no PAL/ P; PAL / *3 : N; NTSC/6; PAL60 / *4 : Panel computer jumper information	Aut exit moc five

Item	Operational Condition and Key Function	Details	Display	To
Firm version display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button, “7” on the remote controller unit.	Firm version display	rrr*1 _xx*2 y*3 zzz*4 / / *1 : Panel computer release number / *2 : System computer generation / *3 : System computer model type / *4 : System computer release number	Auto exit mod five
Region and firm version display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the number button, “8” on the remote controller unit.	Region and firm version display	_r*1 __xx*2 y*3 zzz*4 / / *1 : Region number / *2 : System computer generation / *3 : System computer model type / *4 : System computer release number	Auto exit mod five
Usage time 1	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the ▲ button on the remote controller unit.	Usage time 1 / Laser usage time / Measures each for DVD and CD respectively.	T1_1234_5678 / / The numbers in the left show usage time for DVD laser and those in the right for CD laser. The four-digit number is shown by the ten hours in the decimal digit. The number after 0000 is 9999.	Auto exit mod five

Item	Operational Condition and Key Function	Details	Display	To
Usage time 1 reset	**While the usage time 1 is displayed, press and hold down the ■ button on the player and the ▼ button on the remote controller unit.**	**Usage time 1 reset / Laser usage time' / Resets both for DVD and CD at once.**	**T1_0000_0000**	**Aut exit mod five**
Usage time 2	**While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the ▶ button on the remote controller unit.**	**Usage time 2 / Spindle motor usage time**	**T2_1234 / / The four-digit number is shown by the ten hours in the decimal digit. The number after 0000 is 9999.**	**Aut exit mod five**
Usage time 2 reset	**While the usage time 2 is displayed, press and hold down the ■ button on the player and the ◀ button on the remote controller unit.**	**Usage time 2 reset / Spindle motor usage time**	**T2_0000**	**Aut exit mod five**

Item	Operational Condition and Key Function	Details	Display	To
Communication error display /	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the MENU button on the remote controller unit.	Displays frequency of communication errors between system computer firm IC and mechanical computer IC during DVD module.	ERR_00_/30	Aut exit moc five

15.6. Lock Function

This function prohibits removal of disc and some disc operations to prevent loss of disc at a shop during sales promotion or equivalent occasions. / While this function is activated, the player displays "___LOCKED_" if any button is touched. / The lock function can be used in two ways.

15.6.1. Setting

- LOCK MODE A/LOCK MODE B

1. **While the player is set to SELECTOR DVD/CD and POWER ON, press and hold down the ■ button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "___LOCKED_" for three seconds to indicate that LOCK MODE A is activated and the currently loaded disc is played.**
2. **The following button is invalid during LOCK MODE A. OPEN/CLOSE ⏏ button are invalid and the player displays "___LOCKED_" while the lock function mode is entered.**
3. **While LOCK MODE A is activated and the player is locked, press and hold down the ■ button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "_UNLOCKED_" to indicate the function is deactivated.**
4. **While the player is set to SELECTOR DVD/CD and POWER ON,**

press and hold down the ▶ button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "___LOCKED_" for three seconds to indicate that LOCK MODE B is activated and the currently loaded disc in played.

5. The following buttons are invalid, based on the "selector or disc related", during LOCK MODE B.

Player	**⏏, ■, ⏸, SELECTOR, ▶▶|, |◀◀, VOL. JOG**
Remote controller unit	**SLEEP, REPEAT, D.MIX (REPEAT holding down), 0~9, ≧10 ,RETURN, FL DISPLAY TEST (FL DISPLAY holding down), DISPLAY, SCREEN, CH SELECT, ■, ⏸, |◀◀, ▶▶|, ◀◀, ▶▶ , SET UP, GROUP, MUTING, P MEMOR TUNER/BAND, TV, VCR/AUX**

6. The keys prohibited during PLAY and LOCK MODE B need not to correspond each other. The keys related to sound quality and shown on the DVD screen are not prohibited. Following buttons are always valid:

Player	**POWER, DVD/CD>, PROGRESSIVE, VOL. JOG**
Remote controller unit	**POWER, PLAY MODE, CANCEL, SFC, B. B LEVEL, VOL-, VOL+, DVD/CD>, MENU, TOP MENU, ◀, ▶, ▲, ▼ , ENTER, DPL, SSS,C.F, CSM, ZOOM**

7. While LOCK MODE B is activated and the player is locked, press and hold down the ▶ button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "_UNLOCKED_" for three seconds to indicate that the function is deactivated.

8. The tray lock function is deactivated by "AC Prohibition".

9. LOCK MODE A or B is an exclusive control over whichever is activated first.

10. While the player is set to a lock mode and POWER OFF, the auto power on function can be controlled by the DVD/CD button on the

remote controller. The auto power on function is invalid by the other selector buttons (such as TUNER/BAND button).

11. While a lock mode is turned on and the prohibition button is pressed, "___LOCKED_" appears on FL.
12. While a lock mode is turned on and set to POWER OFF, the OPEN/CLOSE button is invalid to control the auto power on function.

15.7. Things to Do After Repair

Follow the procedure described below after repair.

1. While the power is on, press the ⏏ button to close the tray.
2. Press the power button to turn off the power.
3. Unplug the power cable.

Note:
It is prohibited to unplug the power cable while the tray is opened and to close the tray manually.

16. Service precautions

16.1. Recovery after the player is repaired

- When FLASH ROM or Module (2) P.C.B. is replaced, carry out the recovery processing to optimize the drive. Playback the recovery disc to process the recovery automatically.
- Recovery disc (Product number=RFKZD03R005)
- Performing recovery

1. Load the recovery disc (Product number: RFKZD03R005) to the player and run it.
2. Recovery is performed automatically. When it is finished, a message appears on the screen.
3. Remove the recovery disc.
4. Turn off the power.

Note:
This unit requires no initialization process carried out after the traditional DVD players were repaired. When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item “Initialization” in 13.6 is carried out. Write down the contents of the setting before recovery processing and reset the player.

16.2. DVD Player Firmware Version Upgrade Process

Firmware of DVD player may upgrade to conform to improvement of its performance and quality including operational range, playability of non-standardized discs, etc. The version upgrade disc contains the recovery function, and the recovery disc is not necessary.

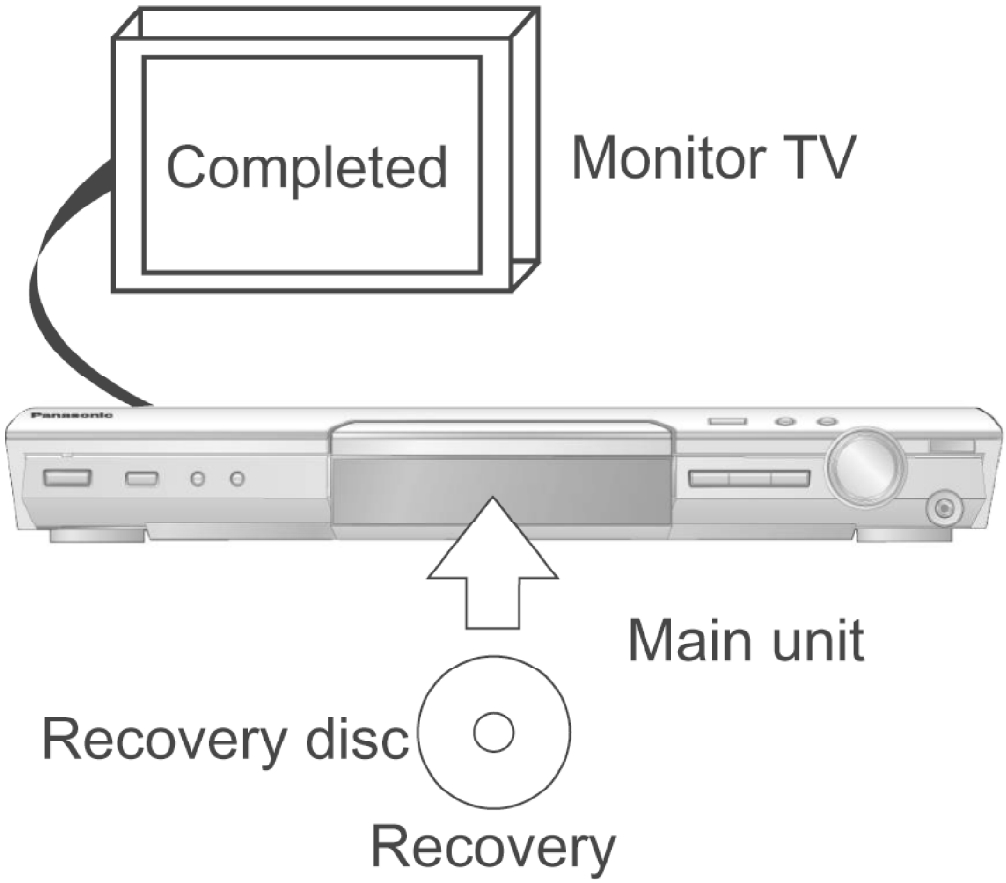
Note:
Version upgrade process cannot be complete if the AC power is cut off due to power failure and other occasions during the process. If this occurs, replace FLASH ROM and restart version upgrade. Version upgrade disc number is informed when ordered.

16.3. Firmware Version Upgrade Process by Using Recovery Disc

- Recovery process

- Firmware version upgrade process

Both of the above procedures automatically start when the recovery disc is replayed.General CD-R disc allows version upgrade process and recovery process, making version upgrade through disc simple. / Recovery process: Optimization process of player after replacement of FLASH ROM, EEPROM, or DVD Module Circuit board / Version upgrade process: Renewal of firmware for improvement of operational range and performance



16.3.1. Version Upgrade Process

1. **Insert the recovery disc to the player to replay.**
2. **The version of player is automatically checked and prompts if necessary.**
3. **Select version upgrade process using the cursor keys on the remote controller unit. (Select YES or NO)**
4. **a. If YES is selected, the process starts.**
   b. If NO is selected, only the recovery process is applied.
5. **a. When the version upgrade process is complete, a message of completion appears on the screen. Remove the disc.**
   b. Follow the instruction appearing on the screen, and remove the disc.
6. **Turn off the power.**

17. Disassembly and Main Component Replacement Procedures

“ATTENTION SERVICER”

Some chassis components may have sharp edges.
Be careful when disassembling and servicing.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures.**
   Special reassembly procedures are described only when required.
3. **Select items from the following index when checks or replacement are required.**

Warning:

This product uses a laser diode. Refer to caution statement Precaution of Laser Diode.

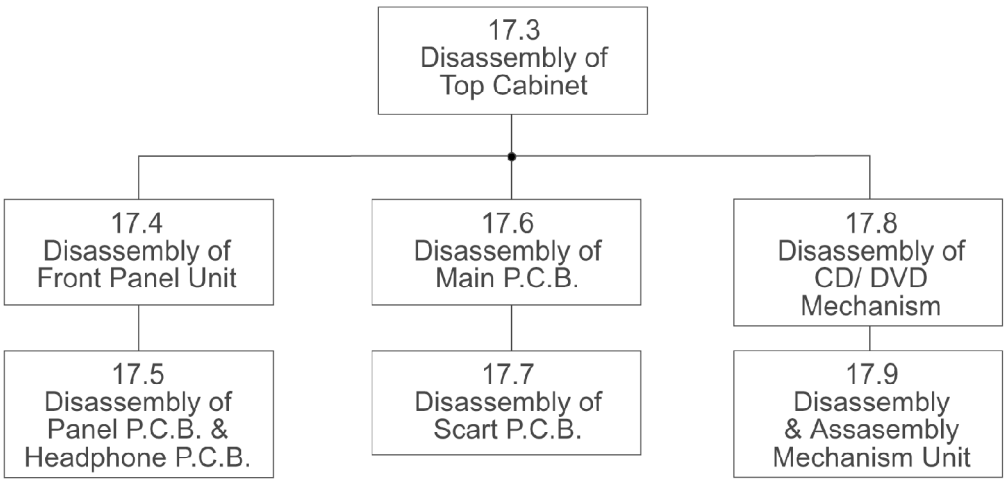
ACHTUNG:

Die Lasereinheit nicht zerlegen.
Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.

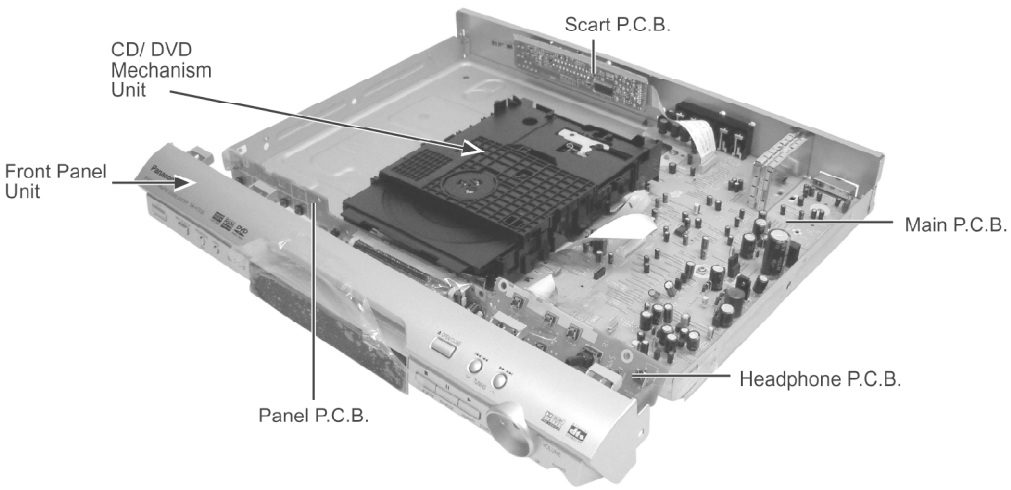
17.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing

To assemble the unit, reverse the steps shown in the chart below.

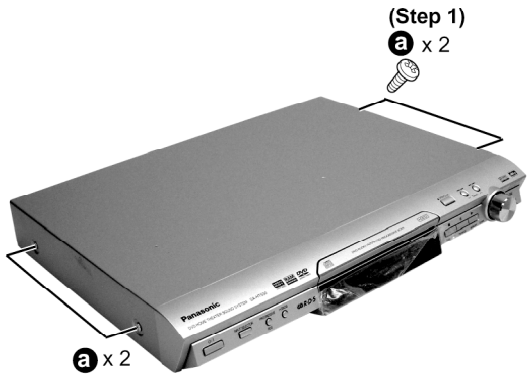


17.2. P.C.B. Locations

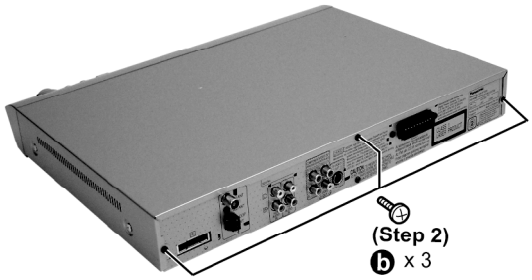


17.3. Disassembly of Top Cabinet

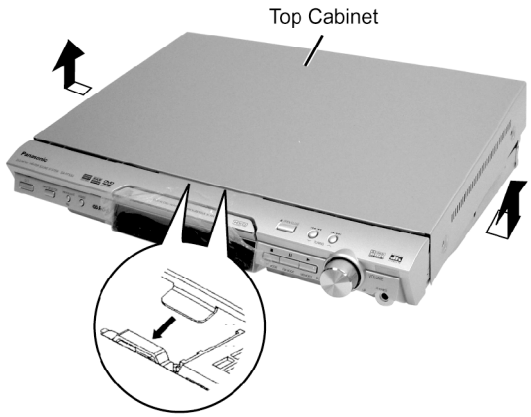
Step 1: Remove 4 screws.



Step 2: Remove 3 screws at rear panel.



Step 3: Lift the top cabinet upwards and push in backward.

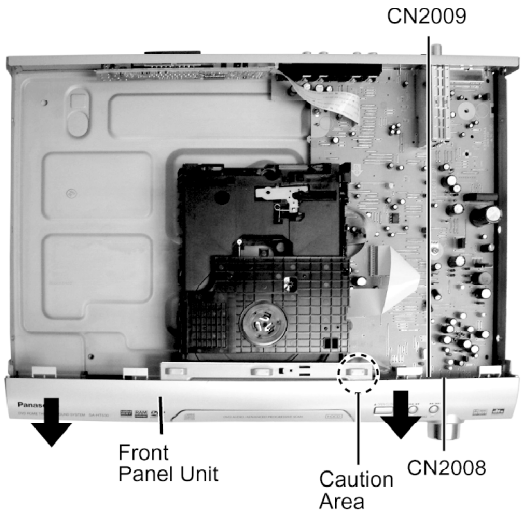


17.4. Disassembly of Front Panel Unit

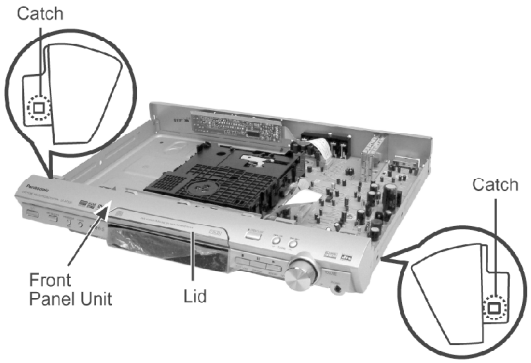
- Follow the (Step 1) - (Step 3) of item 17.3 - Disassembly of Top Cabinet

Step 1: Remove lid. (Using active subwoofer unit/ jig to power- up the unit.)

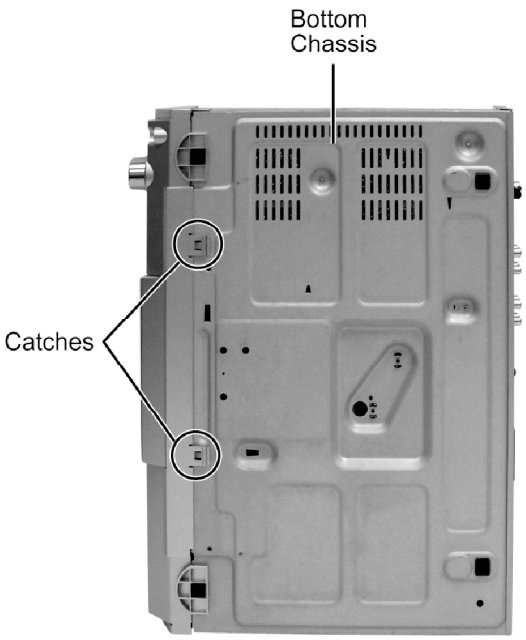
Step 2: Detach FFC Boards (CN2008 and CN2009).



Step 3: Release the catches on the left and right side of front unit.



Step 4: Release the catches from bottom chassis.



Step 5: Draw front panel unit forward.

- Note:

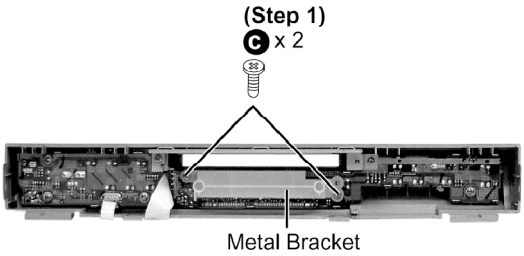
Avoid pulling the front panel unit using strong force.
This may cause damage to Main P.C.B. due to abrasion between metal bracket and the mechanism unit.

17.5. Disassembly of Panel P.C.B. & Headphone P.C.B.

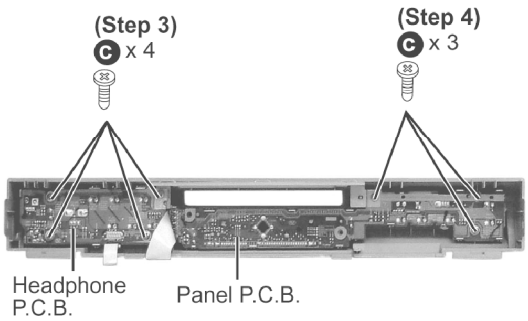
- Follow the (Step 1) - (Step 3) of item 17.3 - Disassembly of Top Cabinet

- Follow the (Step 1) - (Step 5) of item 17.4 - Disassembly of Front Panel Unit

Step 1: Remove 2 screws.



Step 2: Lift up the Metal Bracket.



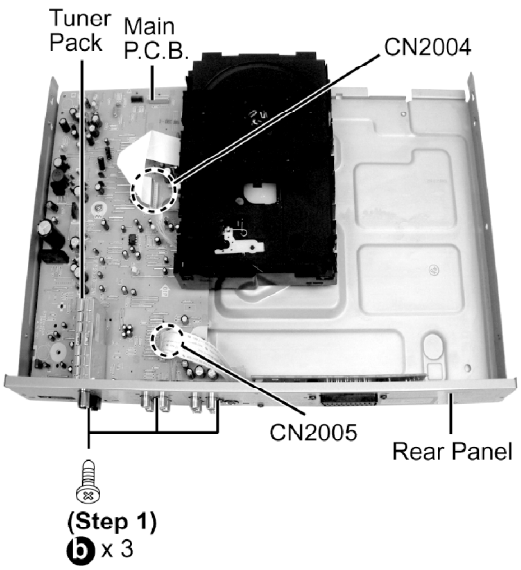
Step 3: Remove 4 screws at Headphone P.C.B.
Step 4: Remove 3 screws at Panel P.C.B.

17.6. Disassembly of Main P.C.B.

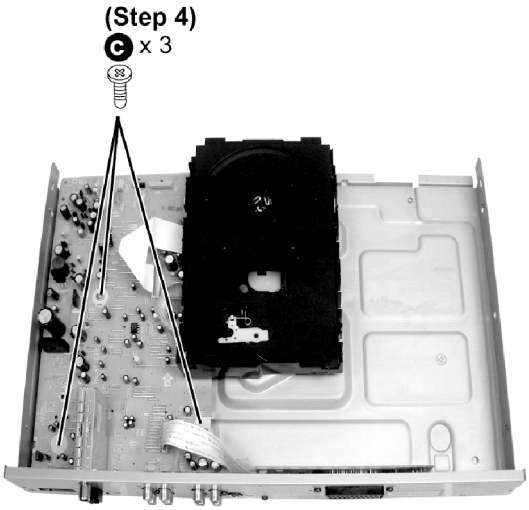
- Follow the (Step 1) - (Step 3) of item 17.3 - Disassembly of Top Cabinet

- Follow the (Step 1) - (Step 5) of item 17.4 - Disassembly of Front Panel

Step 1: Remove 3 screws at the rear panel.



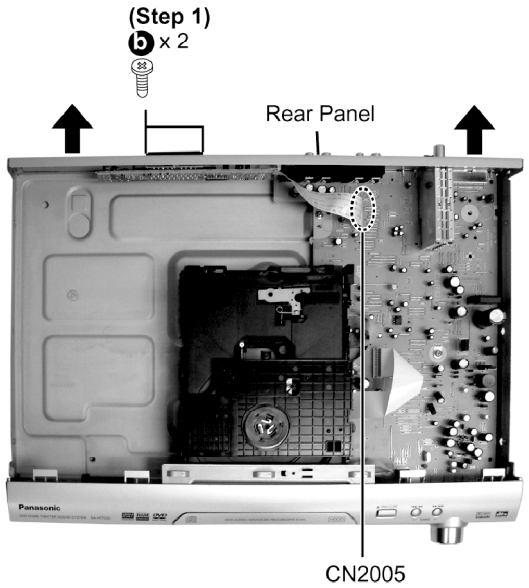
Step 2: Detach FFC Board (CN2005).
Step 3: Detach 50P FFC Board (CN2004).
Step 4: Remove 3 screws at Main P.C.B..
Step 5: Push the Main P.C.B. backwards and lift up the P.C.B. sideway.



17.7. Disassembly of Scart P.C.B.

- Follow the (Step 1) - (Step 3) of item 17.3 - Disassembly of Top Cabinet

Step 1: Remove 2 screws at the rear panel.



Step 2: Detach FFC Boards (CN2005).

Step 3: Slide the Scart P.C.B. backwards to remove it.

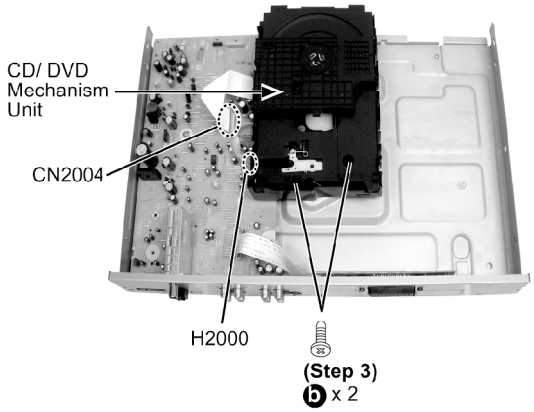
17.8. Disassembly of CD/ DVD Mechanism

- Follow the (Step 1) - (Step 3) of item 17.3 - Disassembly of Top Cabinet

- Follow the (Step 1) - (Step 5) of item 17.4 - Removal of Front Panel

Step 1: Detach 50P FFC Boards (CN2004).

Step 2: Detach connector (H2000).

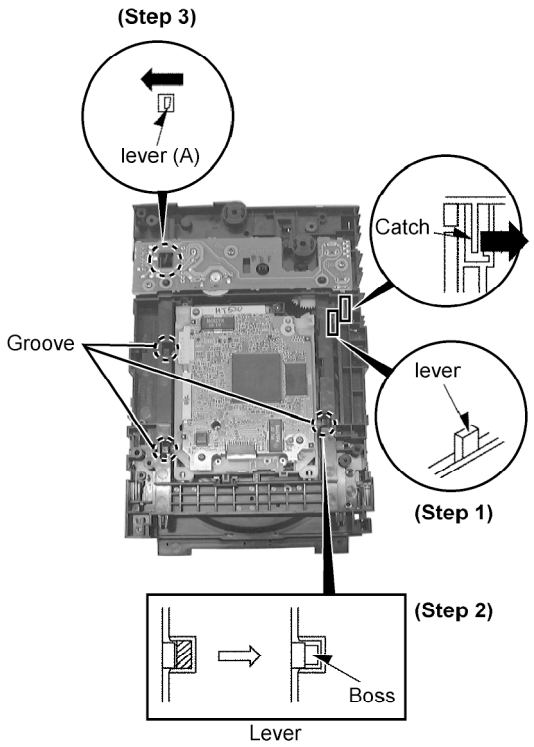


Step 3: Remove 2 screws.
Step 4: Lift up the CD/ DVD mechanism unit.

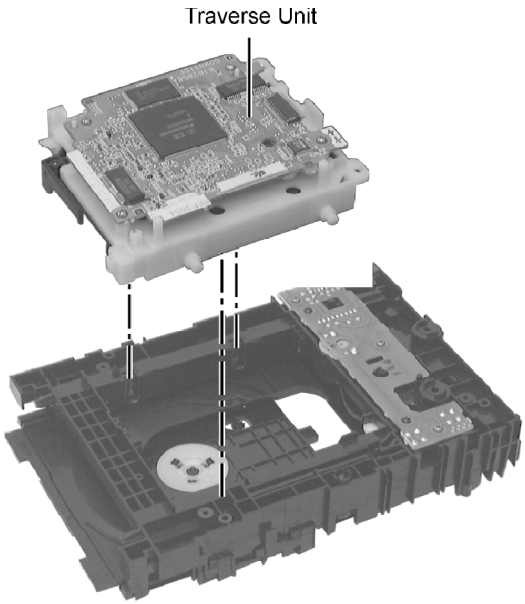
17.9. Disassembly and Assembly Mechanism Unit

17.9.1. Replacement of Traverse Unit.

Step 1: Slide the lever backward to the furthest.
Step 2: While bending the catch at right to the lever to the right direction, slide the lever further until it stops. (The groove at right opens, the boss can be seen.)
Step 3: Press lever (A) to the left. (Two grooves at left open.)

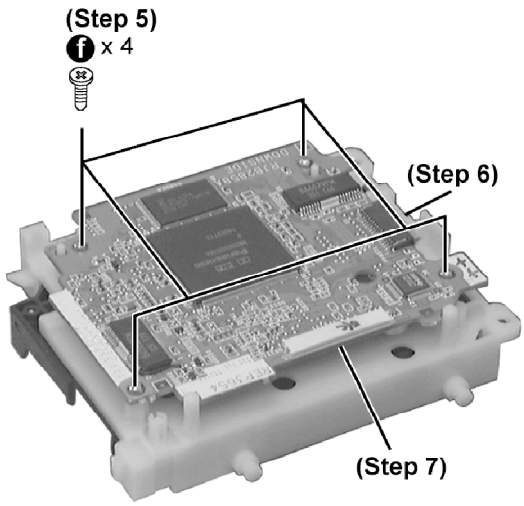


Step 4: Take out the traverse Unit.



- Disassembly of DVD Module P.C.B.

Step 5: Remove 4 screws.

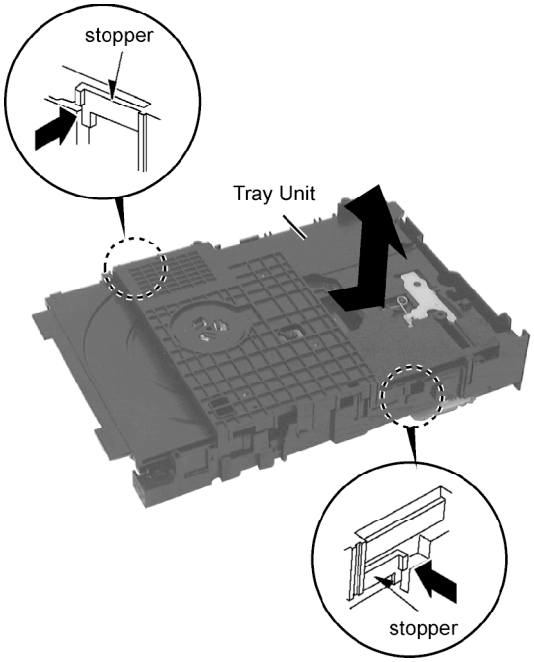


Step 6: Detach 15 P FFC Board (FP8271).
Step 7: Detach 20P FFC Board (FP8501).

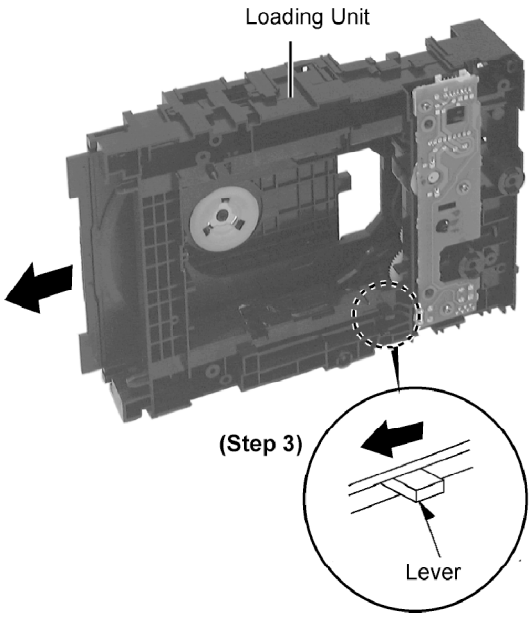
17.9.2. Replacement of Tray.

- Follow the (Step 1) - (Step 7) of item 17.9.1 - Replacement of Traverse Unit

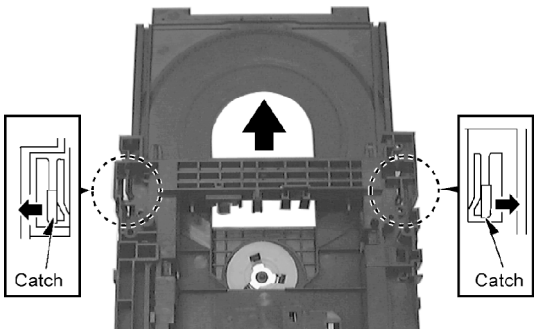
Step 1: While pressing the stopper to the arrow direction, slide the guide tray unit to remove.



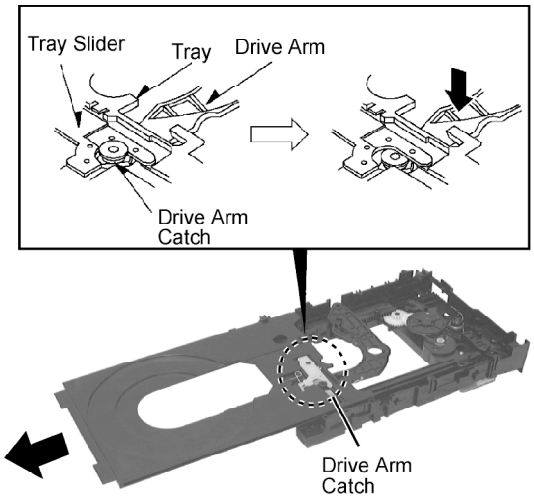
Step 2: Stand the Loading Unit.



Step 3: Push the lever forward (the tray will move).
Step 4: Widen the catches at both sides and pull out the tray. (The tray will stop after a few slides)

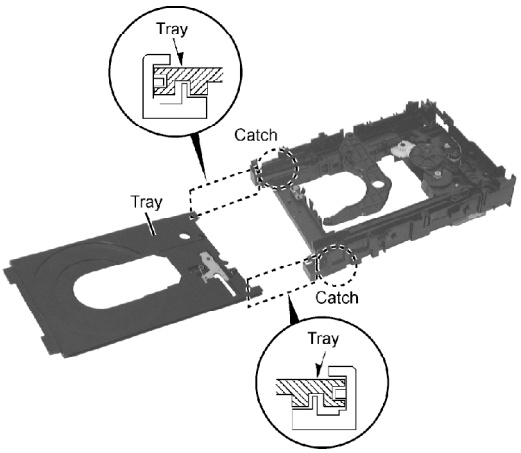


Step 5: Remove Drive Arm Catch from Tray Slider and Tray.

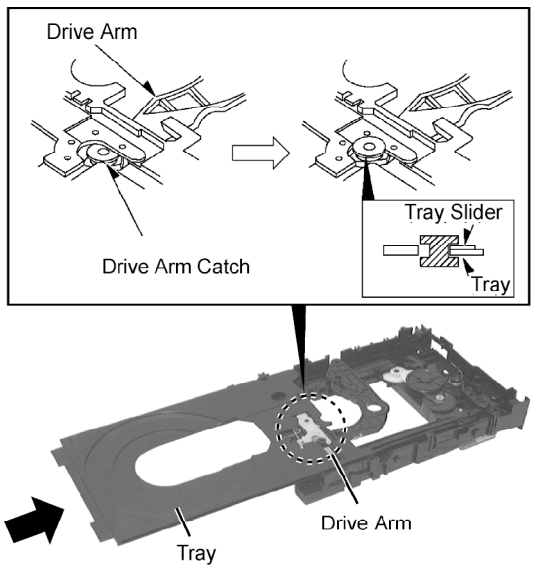


- Fixing the Tray

Step 1: Insert Tray slightly into groove of chassis.



Step 2: Insert Tray into the area to avoid catching the mechanism chassis claw.



Step 3: Latch Drive Arm Catch onto Tray and Tray Slider.

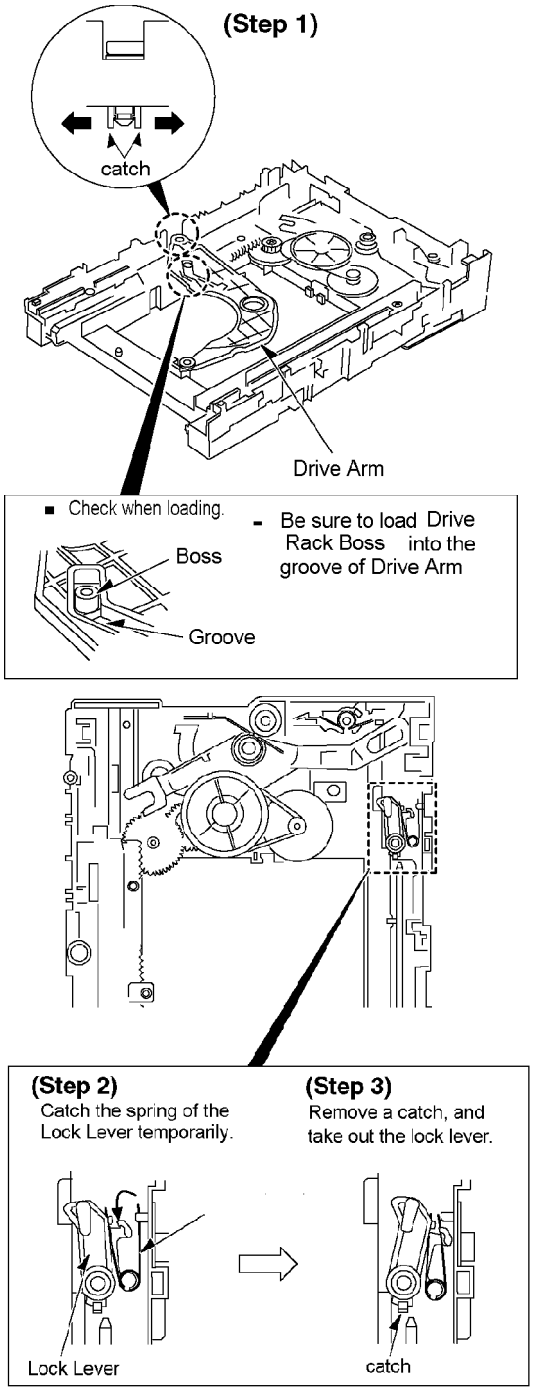
Step 4: Push Tray .

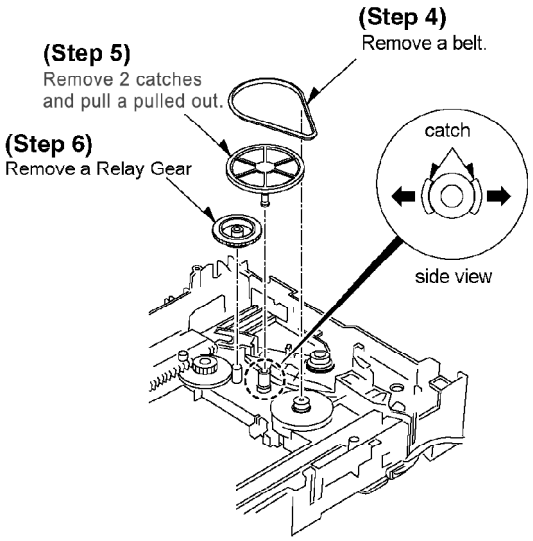
Step 5: Check Tray and Drive Arm move smoothly.

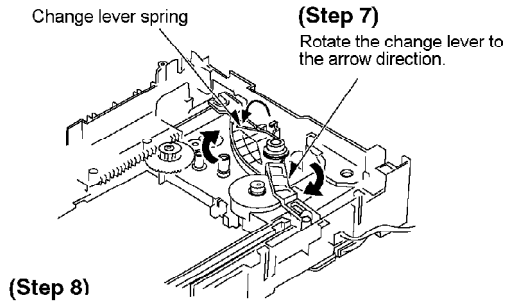
17.9.3. Disassembly of loading section.

- Follow the (Step 1) - (Step 4) of item 17.9.1 - Replacement of Traverse Unit

- Follow the (Step 1) - (Step 5) of item 17.9.2 - Replacement of Tray

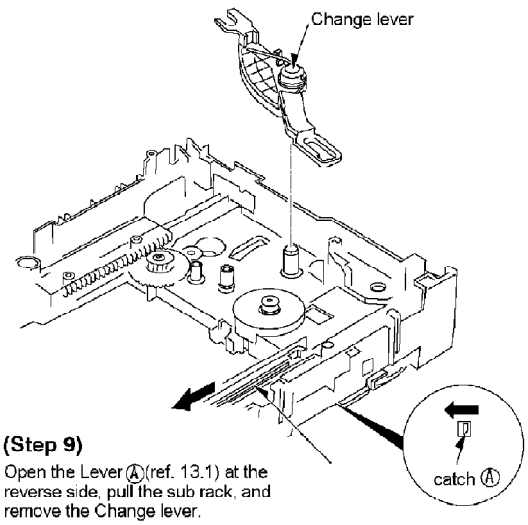






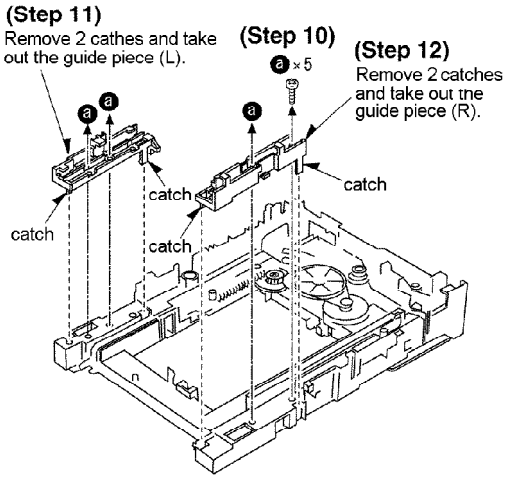
(Step 8)

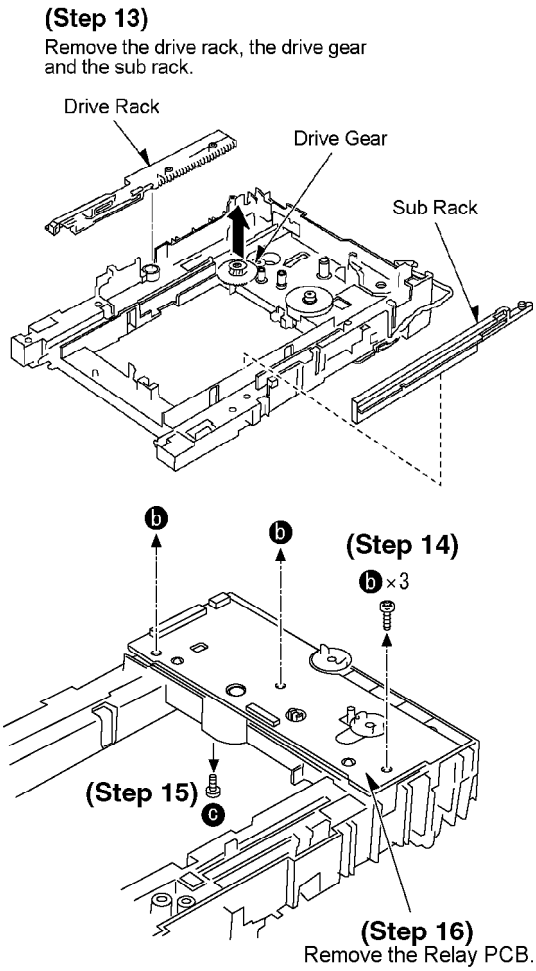
Latch temporarily Change lever spring onto the catch of the change lever



(Step 9)

Open the Lever Ⓐ(ref. 13.1) at the reverse side, pull the sub rack, and remove the Change lever.



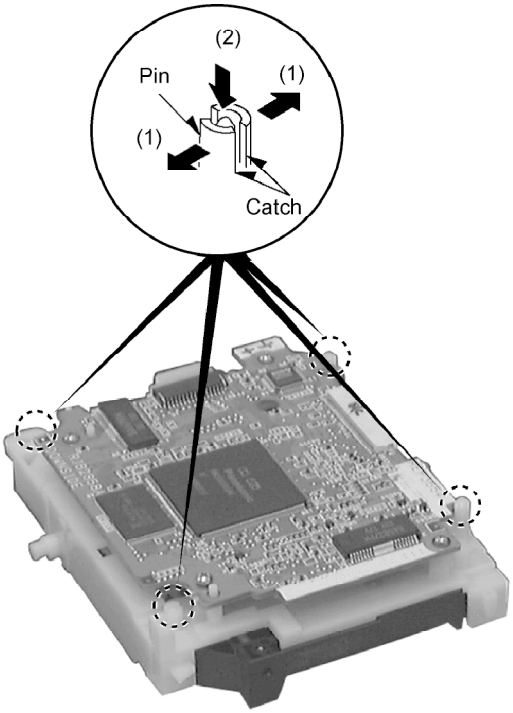


17.9.4. Replacement of Optical Pickup Unit

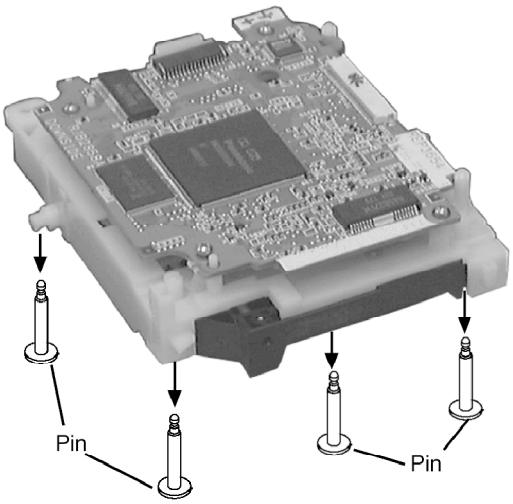
- Follow the (Step 1) - (Step 5) of item 17.9.1 - Replacement of Traverse Unit

- Follow the (Step 1) - (Step 5) of item 17.9.2 - Replacement of Tray

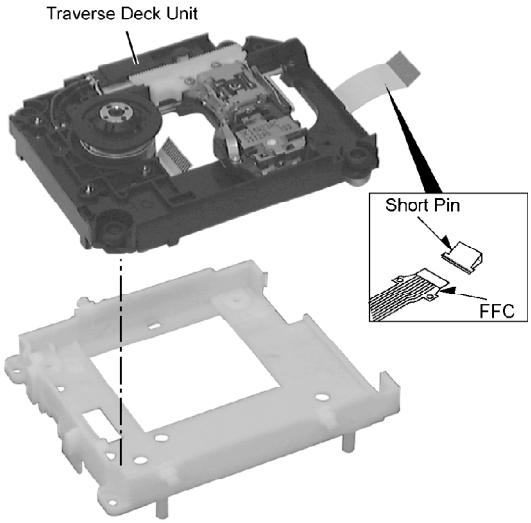
Step 1: Widen the catch, push the pin in.



Step 2: Remove 4 pins.

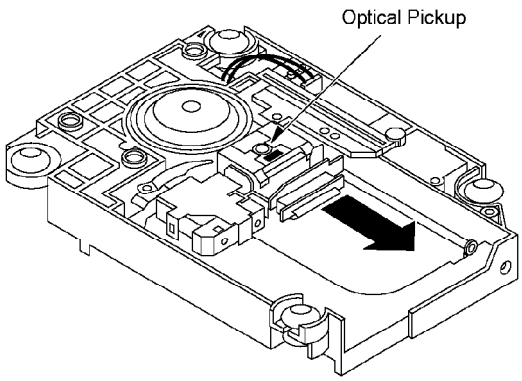


Step 3: Remove Traverse Unit.

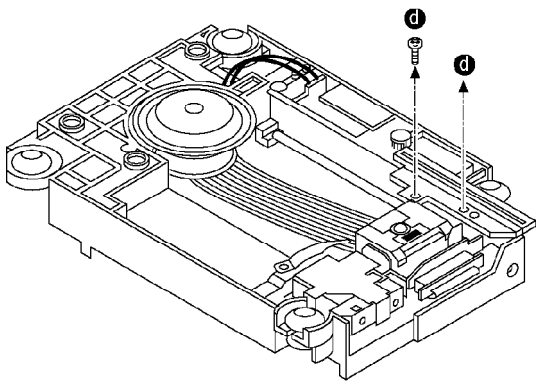


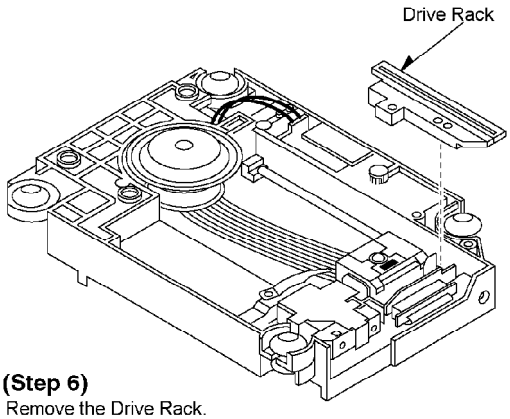
Note:
Insert a short pin into FFC of the optical pickup.

(Step 4)
Shift the Optical Pickup to the furthest backward.

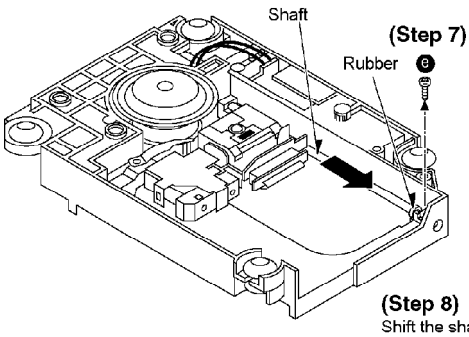


(Step 5)

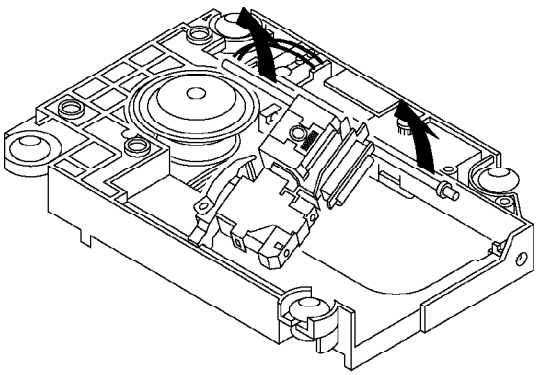




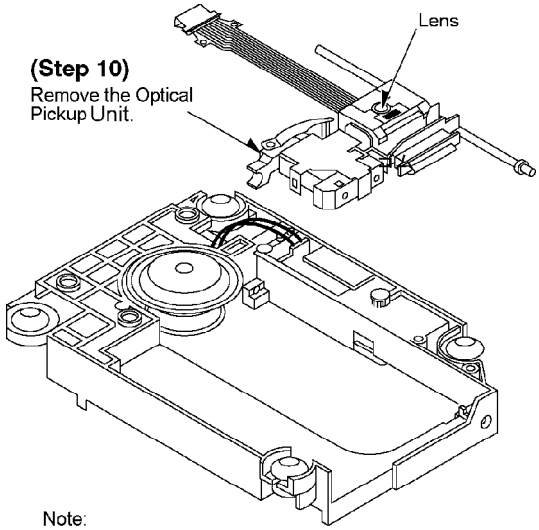
(Step 6)
Remove the Drive Rack.



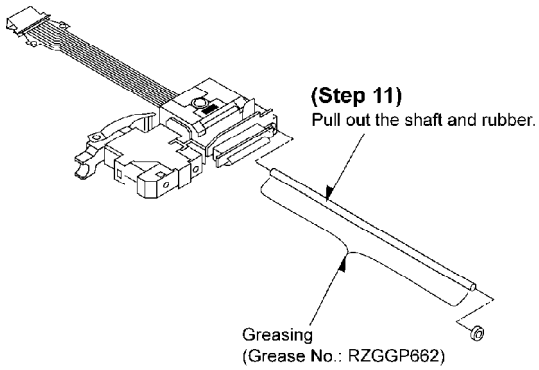
(Step 8)
Shift the shaft to
the arrow direction.

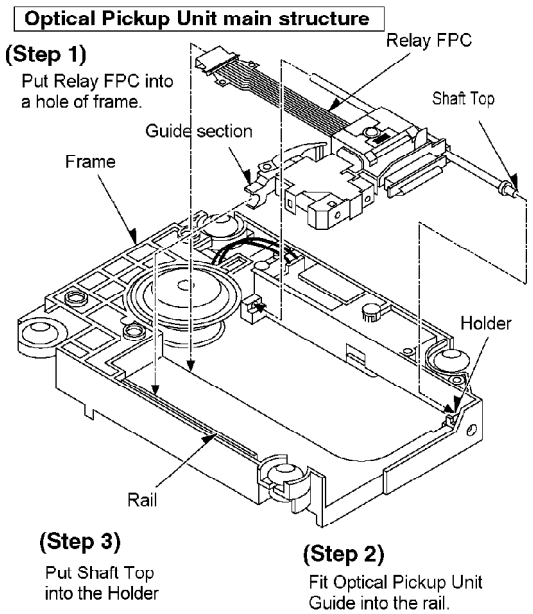


(Step 9)
Lift the Optical Pickup Unit with shaft.



Note:
1. Do not subject optical pickup to static electricity as it is extremely sensitive to electrical shock.





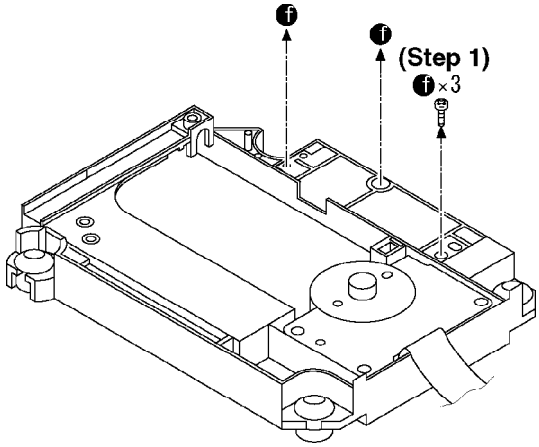
17.9.5. Disassembly of traverse motor (Unit) and spindle motor (Unit).

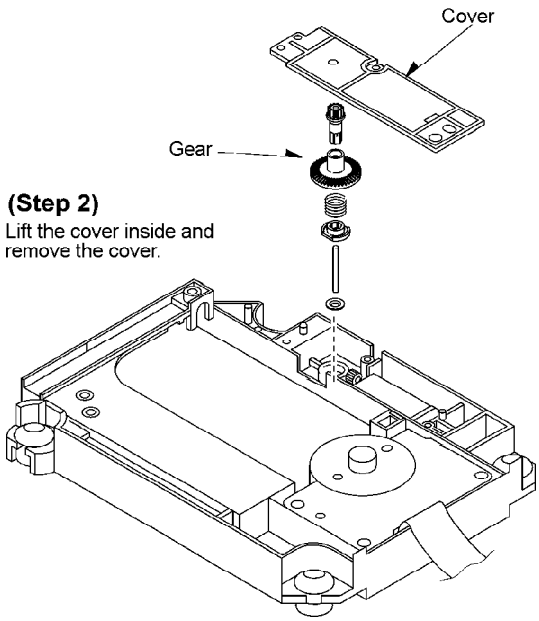
- Follow the (Step 1) - (Step 5) of item 17.9.1 - Replacement of

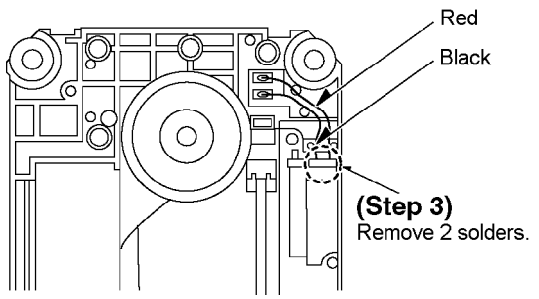
Traverse Unit

- Follow the (Step 1) - (Step 5) of item 17.9.2 - Replacement of Tray

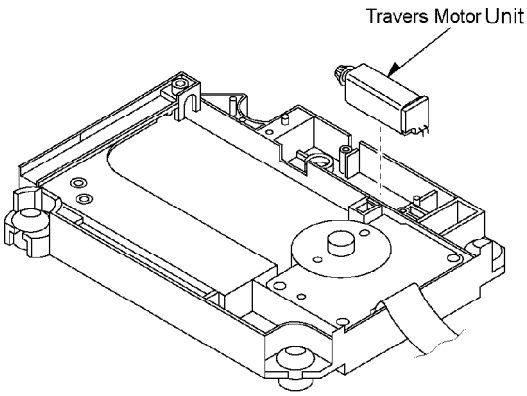
- Follow the (Step 1) - (Step 11) of item 17.9.4 - Replacement of Optical Pickup Unit



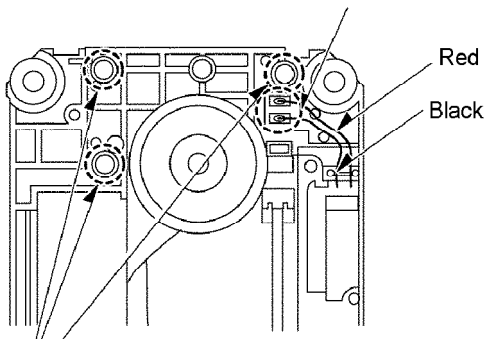




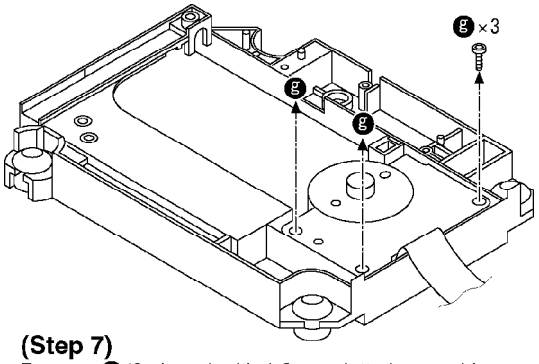
(Step 4)
Remove the Traverse Motor Unit.



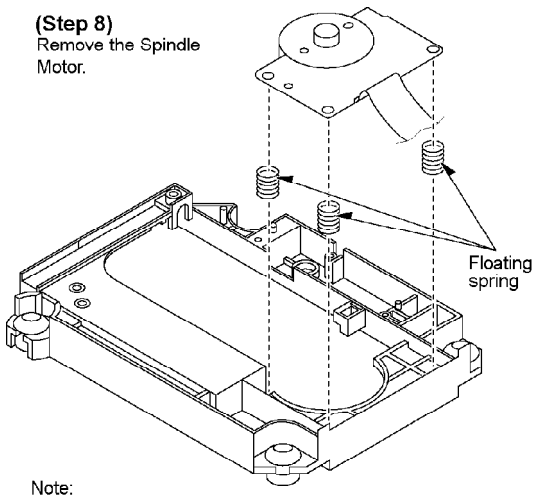
(Step 5)
Remove 2 solders.



(Step 6)
Remove 3 screw locks thoroughly.



(Step 7)
Remove g (3 pieces) with 1.8mm slotted screwdriver.


(Step 8)
Remove the Spindle Motor.
Floating spring
Note:
As floating springs (3 pieces) come off at the same time, be careful not to lose them.

18. Service Position

18.1. Checking the Main P.C.B. and Scart P.C.B.

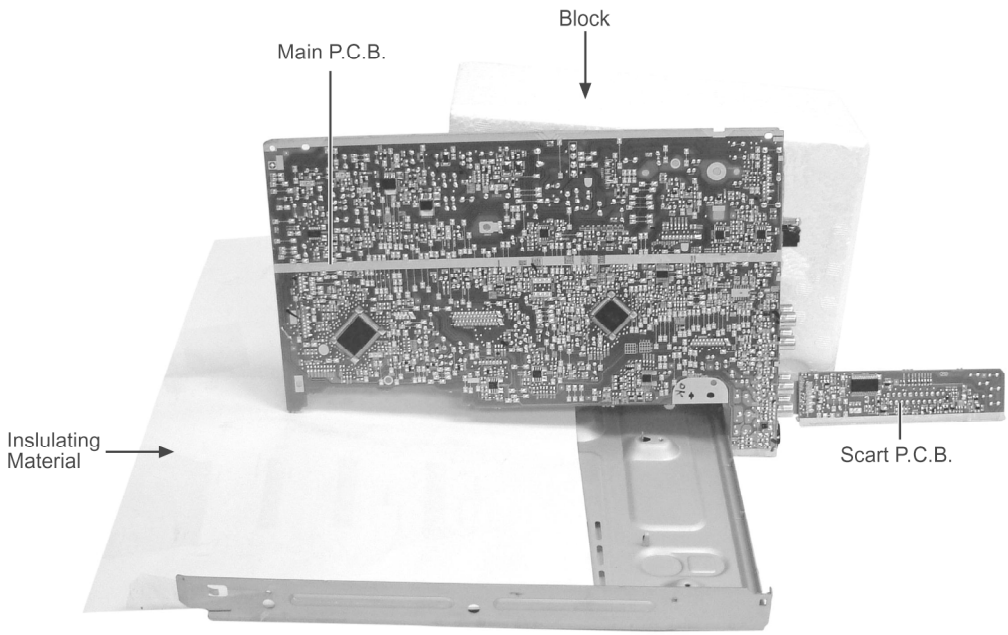
Below are the neccessary steps required for checking of Main P.C.B. and Scart P.C.B..

1. Disassembly of Top Cabinet.

2. Disassembly of Front Panel.

3. Disassembly of Rear Panel.

4. Disassembly of Main P.C.B. and Scart P.C.B..



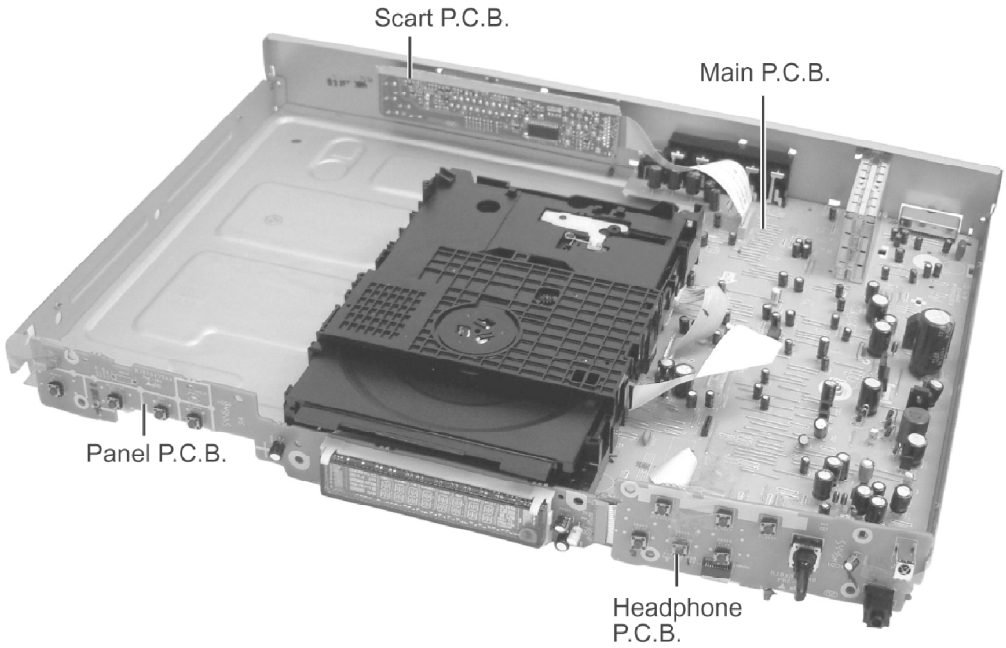
18.2. Checking the Main P.C.B., Panel P.C.B., Scart P.C.B. and Headphone P.C.B..

Below are the neccessary steps required for cheking of Panel P.C.B. and Headphone P.C.B..

1. Remove Top Cabinet.

2. Disassembly of Front Panel.

3. Disassembly of Headphone P.C.B. and Panel P.C.B..



19. Adjustment Procedure

19.1. Required Tools and Equipment

19.1.1. Usage Equipment

Application	Name	Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	TORX screw driver (T6)	Available on sales route. (T6) or RFKZ0185
Inspections	Extension cable (Module P.C.B to mother P.C.B.	VUC8026
	Extension cable (Module P.C.B to mother P.C.B.	JGS0116
Others	Hanari	VFK1784
	Grease	RFKXPG641
	Drysurf	RFKXGUD24
Confirmation	CD test disc	PVCD-K06 and any other commercially available disc
	Recovery disc	RFKZD03R005

19.1.2. Important points in adjustment

19.1.2.1. Important points in Optical Adjustment

- Before starting optical system adjustment, be sure to take anti-static measures.
- Optical adjustment (optical pickup tilt adjustment) is required after following parts are replaced:
  1. Optical pickup unit.
  2. Spindle motor assembly unit.
  3. Optical pickup peripherals (such as a rail)

Note:
Optical adjustment is not necessary after replacement of other parts inside the traverse unit. However, may require when picture deterioration is detected. Optical adjustments cannot be applied to the inside of optical pickup. When a traverse unit is replaced, the adjustment is not necessary.

19.1.3. Storing and Handling Test Discs

Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.

- Do not place discs directly onto the workbench, etc, after use.
- Handle the discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioned.
- Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.
- If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

19.1.4. Optical Adjustment (Optical Pickup Tilt Adjustment)

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw / Tilt adjustment screw	T1 (inner track) replay / T43 (outer track) replay	DVDT-S15 or DVDT
Measuring equipment		Adjustment value	
None (LCD display of the player is used.)		Adjust that jitter value becomes minimum.	

19.1.4.1. Adjustment Procedure

1. While the player is stopped and no disc is inserted, select the

DVD function. Press and hold down the ■ button on the player and the number button, “5” on the remote controller unit.

2. Check that “J_xxx_yyy_zz” is appearing on the display.

For your information:
The values, “yyy” and “zz” are not associated to jitter value. / “yyy” indicates the frequency of error occurrence. / “zz” indicates the focus drive value.

Note:
Jitter value appears on the display.

3. Replay T01 (inner track) of the test disc.

4. Adjust till the jitter value becomes minimum, using a tangential adjustment screw. <Fig. 19-1>

5. Replay T43 (outer track) of the test disc.

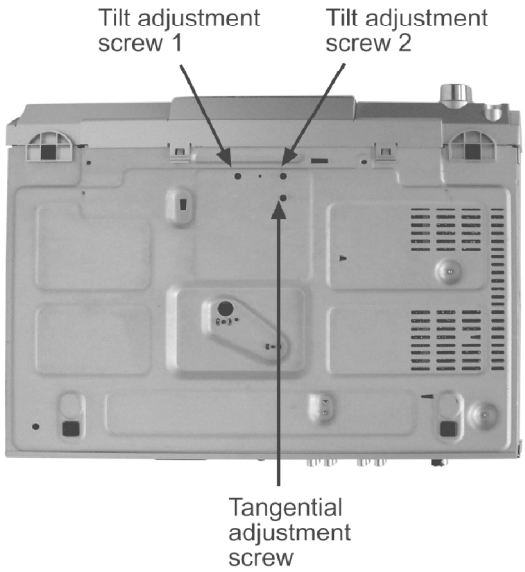
6. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 1. <Fig. 19-1>

7. Replay T43 (outer track) of the test disc.

8. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 2.<Fig. 19-1>

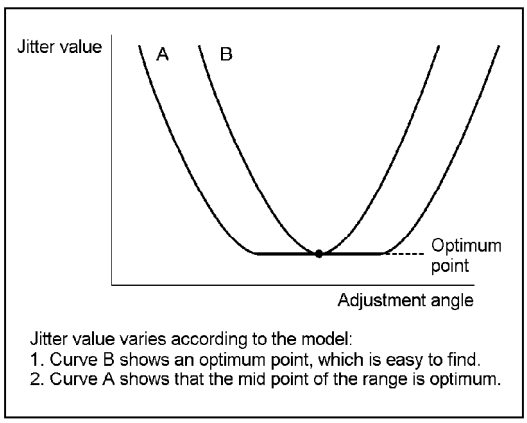
9. Adjust till the jitter value becomes, using the tilt adjustment screws 1 and 2 alternatively.

Fig. 19-1



19.1.4.2. Tips

1. **Apply the tangential adjustment first and then the tilt adjustment.**
2. **Repeat the adjustment a couple of times to find the optimum point.**
3. **Complete with the tilt adjustment.**


Jitter value
A
B
Optimum point
Adjustment angle
Jitter value varies according to the model:
1. Curve B shows an optimum point, which is easy to find.
2. Curve A shows that the mid point of the range is optimum.

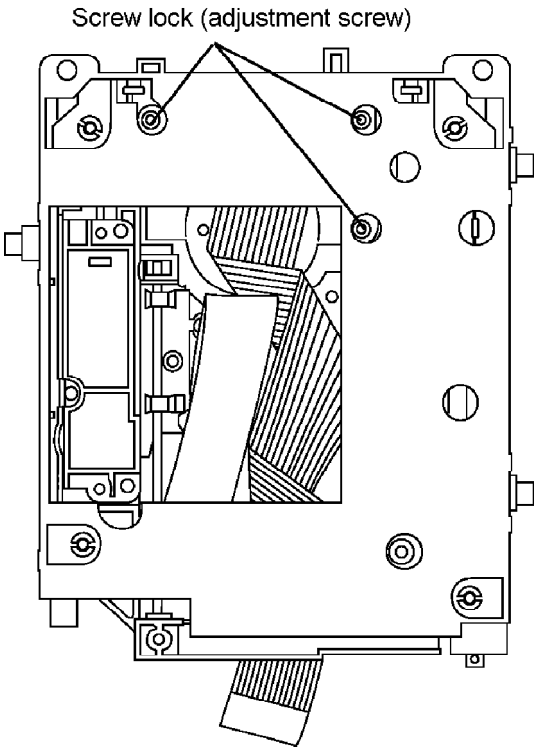
19.1.4.3. Check After Adjustment

Replay test discs or other commercial discs in order to confirm that no picture deterioration or sound skipping is detected in the inner, middle, and outer tracks. After this, fasten each adjustment screw securely using a screw lock.

19.1.4.4. Procedure for Screw Lock

1. **After adjustment, remove the top cover, clamper base, disc tray and then traverse unit.**
2. **Place the traverse unit upside down, and fasten the adjustment screws with a screw lock. <Fig. 19-2>**
3. **After fastening the screws, assemble in order of the traverse unit, disc tray, clamper base, and then top cover.**

Fig. 19-2



20. Block Diagram

21. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

S901

: PLAY switch

S902

: OPEN switch

S6000

: OPEN/CLOSE switch

S6001

: FF switch

S6002

: REW switch

S6003

: STOP switch

S6004

: PAUSE switch

S6005

: PLAY switch

S6011

: POWER switch

S6012

: SELECTOR switch

S6013

: RDS switch

S6014

: H_BASS switch

VR6000

: VOLUME Jog

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

- Importance safety notice :

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.

- Put a conductive mat on the work table.

- Ground the soldering iron.

- Do not touch the pins of IC, LSI or VLSI with fingers directly.

21.1. Optical Pickup Unit Circuit

21.2. (A) DVD Module Circuit

21.3. (B) Main Circuit

21.4. (C) Panel Circuit

21.5. (D) Scart Circuit

21.6. (E) Headphone Circuit & (F) CD Tray Loading Circuit

22. Printed Circuit Board

22.1. (A) DVD Module P.C.B. (Side A & B)

22.2. (B) Main P.C.B.

22.3. (C) Panel P.C.B., (D) Scart P.C.B. & (E) Headphone P.C.B.

22.4. (F) CD Tray Loading P.C.B.

23. Wiring Connection Diagram

24. Illustration of IC's, Transistors and Diodes

25. Terminal Function of IC's

25.1. IC2018(C2CBHG000168): Microprocessor

Pin No.	Mark	I/O	Function
1	TRY_CLOSE	I	Loading Mecha Close Sw (L: Sw ON)
2	TRAY_CCW	O	Terminal for tray control 1
3	TRAY_CW	O	Terminal for tray control 2
4	TRY_OPEN	I	Loading Mecha Open SW (L: Sw ON)
5	N.C.	-	No connection
6	N.C.	-	No connection
7	BRAKE_H	O	Terminal for tray control 3
8	BYTE	I	VSS (GND)
9	CNVss	-	VSS (GND)
10-11	N.C.	-	No connection
12	RESET	I	System Reset Input

Pin No.	Mark	I/O	Function
13	Xout	-	Main clock output (10.0 MHz)
14	Vss	-	GND (0V)
15	XIN	-	Main clock Input (10 MHz)
16	Vcc	-	Power supply (5V)
17	NMI	I	Connect to VCC, external interrupt I/P
18	RMT	I	Remocon Input
19	SYNC	I	AC failure detect input
20	N.C.	-	No connection
21	DIVX_SEL	I	DivX Model Selection (L= No DivX, H= DivX)
22	SPK_EN	I	Speaker Protection (L= Speaker Protect OFF, H= Speaker Protect ON)
23	EDA	I/O	DATA signal for the EEPROM
24	ECK	O	CLOCK signal for the EEPROM
25	ECS	O	LAT signal for the EEPROM
26	N.C.	-	No connection
27	TUN_SD	I	Station Detect
28	TUN_DO	I	Stereo Detect
29	TUN_CLK	O	12C Clock for Tuner
30	TUN_DI	O	12C Data for Tuner
31	(Tx)	I	(for FLASH writer)
32	(Rx)	O	(for FLASH writer)
33	(Clk)	O	(for FLASH writer)
34	MUTE_S/ (Busy)	O	Mute signal for surround Audio signal/ (for FLASH writer)
35	DVD_CMD	O	CMD signal for the DVD Module
36	DVD_STAT	I	STATUS signal from the DVD module
37	DVD_CLK	I	CLK signal for the DVD Module
38	WIDE1	O	Control Signal for the WIDE function
39	MUT_FRNT	O	Mute Signal for FRONT END
40	MUTE_C	O	Mute signal for CENTRE
41	EPM	I	For Flash

Pin No.	Mark	I/O	Function
42	MUTE SUB	O	Subwoofer Mute Signal
43	HP_MUTE	O	Head Phone Mute Signal
44	DVD_MUTE	I	Signal from DVD module control mute circuit
45	RGB_H	O	Mute signal 1 for video output
46	YC_H	O	Control signal for the video signal Mix
47	MUTE_L	O	MUTE signal for the Line output
48	VOL_DA	O	DATA signal for 6ch VOL ASP
49	VOL_CK	O	CLOCK signal for 6ch VOL ASP
50	SCART_MUTE	O	Line out for SCART terminal
51	MIC_MUTE	O	Muting circuit for the MIC input
52	SS_DAT	O	DATA Signal for S.SRND IC
53	SS_CLK	O	Clock Signal for S.SRND IC
54	N.C.	-	No connection
55	HB_MUTE	O	H.Bass Mute
56	HB_LVL	O	H.Bass Level Select
57	CMIX	O	DPL II Bass Improve
58	SURR_FC1	O	Surround Freq. Limiter 1
59	SURR_FC2	O	Surround Freq. Limiter 2
60-61	N.C.	-	No connection
62	Vcc	-	Power supply 5.0V
63	FAN_CTRL	O	FAN Control Output (Only for HT880, High for above -10dB)
64	VSS	-	GND (0V)
65	RF_DET	I	RF input (Wireless Module)
66	RF_PCON	O	RF output (Wireless Module)
67	RF_LINK	I	RF link detection (Wireless Module)
68	DVD_PCNT	O	Control signal for the Power for rthe DVD MODULE
69	N.C.	-	No connection

Pin No.	Mark	I/O	Function
70	PCONT	O	Control Signal for the Power Control Relay
71	MUTE_H	O	HIC MUTE
72	DC DET	I	Signal from the DC Detection circuit
73	RDS_CK	I	Clock signal from the RDS decoder
74	RDS_DAT	I	Data signal from the RDS decoder
75	JOG_B	I	Signal B from Volume JOG
76	JOG_A	I	Signal A from Volume JOG
77-80	N.C.	-	No connection
81	FLD_DA	O	Data input for the FL Driver
82-85	N.C.	-	No connection
86	KEY 3	-	Key 3 line input (cater)
87	FLD_RST	O	Reset Signal for the FL Driver
88	FLD_CS	O	Latch Signal for the FL Driver
89	FLD_CK	O	Clock Signal for the FL Driver
90	N.C.	-	No connection
91	KEY2	I	Key 2 line input
92	N.C.	-	No connection
93	DES3	I	REGION Setting for DVD
94	MODEL_SEL	I	Model Selector
95	DES1	I	REGION Setting for Tuner
96	AVss	-	Analog Power Supply Input
97	KEY 1	I	Key 1 line input
98	VREF	-	Reference Voltage Input
99	AVCC	-	Analog Power Supply Input
100	N.C.	-	No connection

25.2. IC8001 (MN2DS0003APH) DV2.1 IC

Pin No.	Mark	I/O	Function
1	MDQ9	I/O	SDRAM Data 9
2	MDQ5	I/O	SDRAM Data 5
3	VSS	-	GND
4	MDQ10	I/O	SDRAM Data 10
5	MDQ4	I/O	SDRAM Data 4
6	VDD33	-	I/O Power Supply
7	MDQ11	I/O	SDRAM Data 11
8	MDQ3	I/O	SDRAM Data 3
9	VSS	-	GND
10	MDQ12	I/O	SDRAM Data 12
11	MDQ2	I/O	SDRAM Data 2
12	VDD33	-	I/O Power Supply
13	MDQ13	I/O	SDRAM Data 13
14	MDQ1	I/O	SDRAM Data 1
15	MDQ14	I/O	SDRAM Data 14
16	VSS	-	GND
17	MDQ0	I/O	SDRAM Data 0
18	MDQ15	I/O	SDRAM Data 15
19	VDD33	-	I/O Power Supply
20	VSS	-	GND
21	EXADR20	I/O	Exterior Memory Address General Use Port
22	NEXWE	O	Exterior Memory Write Enable
23	EXADT0	I/O	Exterior Memory Address Data 0
24	EXADT4	I/O	Exterior Memory Address Data 4
25	EXADT8	I/O	Exterior Memory Address Data 8
26	VDD12	-	Logic Power Supply
27	EXADT12	I/O	Exterior Memory Address Data12
28	VDD33	-	I/O Power Supply
29	VSS	-	GND
30	EXADR16	I/O	Exterior Memory Address 16
31	EXADR18	I/O	Exterior Memory Address 18
32	EXADT14	I/O	Exterior Memory Address Data 14
33	EXADT10	I/O	Exterior Memory Address Data 10
34	VDD33	-	I/O Power Supply

34	**VDD33**	**-**	**I/O Power Supply**

Pin No.	Mark	I/O	Function
35	VSS	-	GND
36	EXADT6	I/O	Exterior Memory Address Data 6
37	EXADT2	I/O	Exterior Memory Address Data 2
38	NEXCE	O	Exterior Memory Chip Select
39	EXADT1	I/O	Exterior Memory Address Data 1
40	EXADT5	I/O	Exterior Memory Address Data 5
41	EXADT9	I/O	Exterior Memory Address Data 9
42	EXADT13	I/O	Exterior Memory Address Data 13
43	EXADR17	I/O	Exterior Memory Address 17
44	VDD12	-	Logic Power Supply
45	EXADR19	I/O	Exterior Memory Address 19 General Port 19
46	EXADT15	I/O	Exterior Memory Address Data 15
47	EXADT11	I/O	Exterior Memory Address Data 11
48	VDD33	-	I/O Power Supply
49	VSS	-	GND
50	EXADT7	I/O	Exterior Memory Address Data 7
51	EXADT3	I/O	Exterior Memory Address Data 3
52	NEXOE	O	Exterior Memory Output Enable
53	P15	I/O	General Port 15 Exterior Memory Address 21 Remote Reception Interruption Exterior Interruption 3
54	P14	I/O	General Use Port 14 Serial 3 Transmission Completion Flag
55	P13	I/O	General Use Port 13 Serial 3 Transmission Completion Flag

Pin No.	Mark	I/O	Function
56	P12	I/O	General Use Port 12 Serial 3 Clock
57	P11	I/O	General Use Port 11 Serial 3 Output Data Serial 1 Output Data
58	P10	I/O	General Use Port 10 Serial 3 Input Data Serial 1 Input Data
59	P9	I/O	General Use Port 9 Serial 2 Clock
60	P8	I/O	General Use Port 8 Serial 2 Output Data Serial 1 Output Data
61	P7	I/O	General Use Port 7 Serial 2 Input Data Serial 1 Input Data
62	VDD33	-	I/O Power Supply
63	MMOD[7]	I	Test Mode Setting
64	VSS	-	GND
65	P6	I/O	General Use Port 6 Exterior Interruption 2 16 Bits Timer Exterior Count Source B
66	P5	I/O	General Use Port 5 Serial 1 Output Data 16 Bits Timer Exterior Count Source A
67	P4	I/O	General Use Port 4 Serial 1 Input Data Exterior Interruption 1 Remote Reception Interrruption
68	P3	I/O	General Use Port 3 Serial 0 Clock Exterior Interruption 0
69	P2	I/O	General Use Port 2 Serial 0 Output Data 8 Bits Timer Exterior Count Source 1
70	P1	I/O	General Use Port 1 Serial 0 Input Data 8 Bits Timer Exterior Count Source 0
71	P0[8]	I/O	General Use Port 0 Extension Chip Selection

Pin No.	Mark	I/O	Function
72	FG	I	Motor FG
73	NRST	I	Master Reset
74	VSS	-	GND
75	DRV0	I/O	Servo General Use Port 0
76	DRV1	I/O	Servo General Use Port 1
77	DRV2	I/O	Servo General Use Port 2
78	DRV3	I/O	Servo General Use Port 3
79	DRV4	I/O	Servo General Use Port 4
80	DRV5	I/O	Servo General Use Port 5
81	DRV6	I/O	Servo General Use Port 6
82	DRV7	I/O	Servo General Use Port 7
83	DRV8	I/O	Servo General Use Port 8
84	VDD33	-	I/O Power Supply
85	$P16_9$	I/O	General Use Port 39
86	$P17_3$	I/O	General Use Port 40
87	VSS	-	GND
88	MONI7	I/O	Inside/ Internal Monitor 7 Exterior/ Outside Memory Data 7 General Use Port 38 Digital Video Output 7
89	VDD12	-	Logic Power Supply
90	MONI6	I/O	Inside/ Internal Monitor 6 Exterior/ Outside Memory Data 6 General Use Port 37 Digital Video Output 6
91	MONI5	I/O	Inside/ Internal Monitor 5 Exterior/ Outside Memory Data 5 General Use Port 36 Digital Video Output 5
92	MONI4	I/O	Inside/ Internal Monitor 4 Exterior/ Outside Memory Data 4 General Use Port 35 Digital Video Output 4
93	VSS	-	GND
94	MONI3	I/O	Inside/ Internal Monitor 3 Exterior/ Outside Memory Data 3 General Use Port 34 Digital Video Output 3

Pin No.	Mark	I/O	Function
95	MONI2	I/O	Inside/ Internal Monitor 2 Exterior/ Outside Memory Data 2 General Use Port 33 Digital Video Output 2
96	MONI1	I/O	Inside/ Internal Monitor 1 Exterior/ Outside Memory Data 1 General Use Port 32 Digital Video Output 1 Stream Error Flag Output
97	MONI0	I/O	Inside/ Internal Monitor 0 Exterior/ Outside Memory Data 0 General Use Port 31 Digital Video Output 0 Stream Sector Head Output
98	AVDDD	-	Analog power Supply
99	PLFIL1	O	DRCVCO Use Capacity Connection 1
100	AVSSD	-	Analog GND
101	VREFH7	O	DRC Use ADC Voltage (Top)
102	VREFM7	O	DRC Use ADC Voltage (MDL)
103	VREFL7	O	DRC Use ADC Voltage (BTM)
104	CCAPA	O	INLINE CAPA Use Capacity Connection
105	AVSSC	-	Analog Ground
106	CDATA	O	INLINE DATA Use Capacity Connection
107	AVDDC	-	Analog Power Supply
108	ANAMONI1	O	Inside Analog Monitor 1
109	ANAMONI2	O	Inside Analog Monitor 2
110	RFINN	I	Exterior/ Outside RF Input (-)
111	RFINP	I	Exterior/ Outside RF Input (+)
112	VIN6RF	I	RF Input 6
113	VIN5RF	I	RF Input 5
114	VIN4RF	I	RF Input 4
115	VIN3RF	I	RF Input 3
116	VIN2RF	I	RF Input 2

Pin No.	Mark	I/O	Function
117	VIN1RF	I	RF Input 1
118	AVDDB	-	Analog Power Supply
119	VREFH5	I	5 Bits Standard Voltage (H)
120	VREFM5	I	5 Bits Standard Voltage (M)
121	VREFL5	I	5 Bits Standard Voltage (L)
122	AVSSB	-	Analog GND
123	LPC1	I	DVD LPC Input
124	LPCO1	O	DVD LPC Output
125	LPC2	I	CD LPC Input
126	LPCO2	O	CD LPC Output
127	VREFH	O	Standard Voltage 2.20 V Output
128	VHALF	O	Standard Voltage 1.65 V Output
129	VIN10	I	CD Head Input
130	VIN9	I	CD Head Input
131	VIN8	I	DVD Head Input
132	VIN7	I	DVD Head Input
133	VIN6	I	CD Head Input
134	VIN5	I	CD Head Input
135	VIN4	I	DVD Head Input
136	VIN3	I	DVD Head Input
137	VIN2	I	DVD Head Input
138	VIN1	I	DVD Head Input
139	AD2	I	General Use AD Input (BSDA Offset Revision TK Use)
140	AD1	I	General Use AD Input
141	AVDDH	-	Analog power Supply
142	VREFL10	O	AD Self Bias Reference Low-side
143	AD0	I	General Use AD Input
144	VREFH10	O	AD Self Bias Reference Hi-side
145	AVSSH	-	Analog GND
146	VCOF	I	JFVCO Control Voltage (include iRAM Edition)/ General Use AD Input (BSDA Offset Revision FC Use)
147	PWM1	O	Tracking Drive Output

Pin No.	Mark	I/O	Function
148	PWM0	O	Focus Drive Output
149	DAC1OUT	O	Y (Brightness)/ G (Green) Analog Signal
150	AVDDF	-	DAC Use Power Supply
151	DAC2OUT	O	Cb (Colour Difference)/ B (Blue) Analog Signal
152	DAC3OUT	O	Cr (Colour Difference)/ R (Red) Analog Signal
153	VREF	I	Inside/ Internal DAC Reference Voltage
154	IREF1	I	Inside/ Internal DAC Bias Current Setting Use Resistance Terminal
155	COMP	I	Inside/ Internal DAC Stabilizer Capacity Connection Terminal
156	DAC4OUT	O	Y (Brightness)/ Comp (Composite) Analog Terminal
157	AVSSF	-	DAC Use GND
158	DAC5OUT	O	C (Colour) Analog Signal
159	AVDDE	-	PLL Use Power Supply
160	AVSSE	-	PLL Use GND
161	AVDDG		PLL Use Power Supply
162	AVSSG	-	PLL Use GND
163	DACCK	O	Audio Clock Phase Difference/ Stream Data Output 7
164	VSS	-	GND
165	OSCI	I	Oscillation Input (27 MHz/ 54 MHz)
166	OSCO	O	Oscillation Output (27 MHz /54 MHz)
167	VDD33	-	I/O Power Supply
168	EXTCK	I/O	Exterior Audio Clock Stream Clock Output
169	LRCK	O	LR Channel Clock Stream Data Output 6
170	SRCK	O	Bits Clock/ Stream Data Output 5
171	ADOUT3	O	Audio Down Mix Stream Data Output 4
172	VDD12	-	Logic Power Supply
173	VSS	-	GND

Pin No.	Mark	I/O	Function
174	ADOUT2	O	Audio Data Inside/ Internal Monitor 11 Stream Data Output 3
175	ADOUT1	O	Audio Data Inside/ Internal Monitor 10 Stream Data Output 2
176	ADOUT0	O	Audio Data Inside/ Internal Monitor 9 Stream Data Output 1
177	IECOUT	O	IEC958 Digital Audio Data Inside/ Internal Monitor 8 Stream Data Output 0
178	VDD33	-	I/O Power Supply
179	VSS	-	GND
180	SCLOCK	I/O	Debug Use Input Clock Stream Sector Head Output
181	EXTRG0	I/O	Debug Use Input Output Trigger Exterior Memory Data 15 General Port/ Mode Setup Data
182	SDATA	I/O	Debug Use Input Output Data Stream Error Flag Output
183	EXTRG1	I/O	Debug Use Input Output Trigger 1 Exterior Memory Data 14 General Port 28 Mode Setup Clock
184	TRCCLK	I/O	Debug Use Output Trace Clock Exterior Memory Data 13 General Port 29
185	TRCDATA0	I/O	Debug Use Input Output Trace Data 0 Exterior Memory Data 12 General Port 23
186	TRCDATA1	I/O	Debug Use Input Output Trace Data 1 Exterior Memory Data 11 General Port 24

Pin No.	Mark	I/O	Function
187	TRCDATA2	I/O	Debug Use Input Output Trace Data 2 Exterior Memory Data 10 General Port 25
188	TRCDATA3	I/O	Debug Use Input Output Trace Data 3 Exterior Memory Data 9 General Port 26
189	TRCST	I/O	Debug Use Output Trace Status Exterior Memory Data 8 General Port 30
190	VDD33	-	I/O Power Supply
191	VSS	-	GND
192	MDQ24	I/O	SDRAM Data 24 Exterior Memory Data 8
193	MDQ23	I/O	SDRAM Data 23 Exterior Memory Data 7
194	MDQ25	I/O	SDRAM Data 25 Exterior Memory Data 9
195	MDQ22	I/O	SDRAM Data 22 Exterior Memory Data 6
196	VDD33	I/O	I/O Power Supply
197	MDQ26	I/O	SDRAM Data 26 Exterior Memory Data 10
198	MDQ21	I/O	SDRAM Data 21 Exterior Memory Data 5
199	MDQ27	I/O	SDRAM Data 27 Exterior Memory Data 11
200	MDQ20	I/O	SDRAM Data 20 Exterior Memory Data 4
201	VSS	-	GND
202	VDD33	-	I/O Power Supply
203	MDQ28	I/O	SDRAM Data 28 Exterior Memory Data 12
204	MDQ19	I/O	SDRAM Data 19 Exterior Memory Data 3
205	VSS	-	GND
206	MDQ29	I/O	SDRAM Data 29 Exterior Memory Data 13
207	MDQ18	I/O	SDRAM Data 18 Exterior Memory Data 2
208	MDQ30	I/O	SDRAM Data 30 Exterior Memory Data 14

Pin No.	Mark	I/O	Function
209	VDD33		I/O Power Supply
210	MDQ17	I/O	SDRAM Data 17 Exterior Memory Data 1
211	MDQ31	I/O	SDRAM Data 31 Exterior Memory Data 15
212	MDQ16	I/O	SDRAM Data 16 Exterior Memory Data 0
213	VSS	-	GND
214	DQM3	O	SDRAM Data Mask 3
215	DQM2	O	SDRAM Data Mask 2
216	VDD33		I/O Power Supply
217	MA3	O	SDRAM Address 3
218	VSS	-	GND
219	VDD12	-	Logic Power Supply
220	MA4	O	SDRAM Address 4
221	MA2	O	SDRAM Address 2
222	VSS	-	GND
223	MA5	O	SDRAM Address 5
224	MA1	O	SDRAM Address 1
225	VDD33	-	I/O Power Supply
226	MA6	O	SDRAM Address 6
227	MA0	O	SDRAM Address 0
228	MA7	I	SDRAM Address 7
229	VSS	-	GND
230	MA10	O	SDRAM Address 10
231	VDD33	-	I/O Power Supply
232	BA1	O	SDRAM Bank Address 1
233	MA8	I/O	SDRAM Address 8
234	BA0	O	SDRAM Bank Address 0
235	VSS	-	GND
236	VDD12	-	Logic Power Supply
237	MA11	O	SDRAM Address 11
238	MA9	O	SDRAM Address 9
239	VDD33	-	I/O Power Supply
240	NCSM	O	SDRAM Chip Select
241	MCKI	I	SDRAM Output Clock
242	VSS	-	GND
243	MCK	O	SDRAM Input Clock
244	NRAS	O	SDRAM Low Address Strobe
245	NCAS	O	SDRAM Colume Address Strobe
246	VDD33	-	I/O Power Supply

Pin No.	Mark	I/O	Function
247	VSS	-	GND
248	NWE	O	SDRAM Write Enable
249	DQM0	O	SDRAM Data Mack 0
250	VSS	-	GND
251	DQM1	O	SDRAM Data Mask 1
252	MDQ7	I/O	SDRAM Data 7
253	VSS	-	GND
254	MDQ8	I/O	SDRAM Data 8
255	VDD33	-	I/O Power Supply
256	MDQ6	I/O	SDRAM Data 6

26. Parts Location and Replacement Parts List

Notes:

- Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)
Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to caution statements on "Precaution of Laser Diode".

- Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.

- Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).

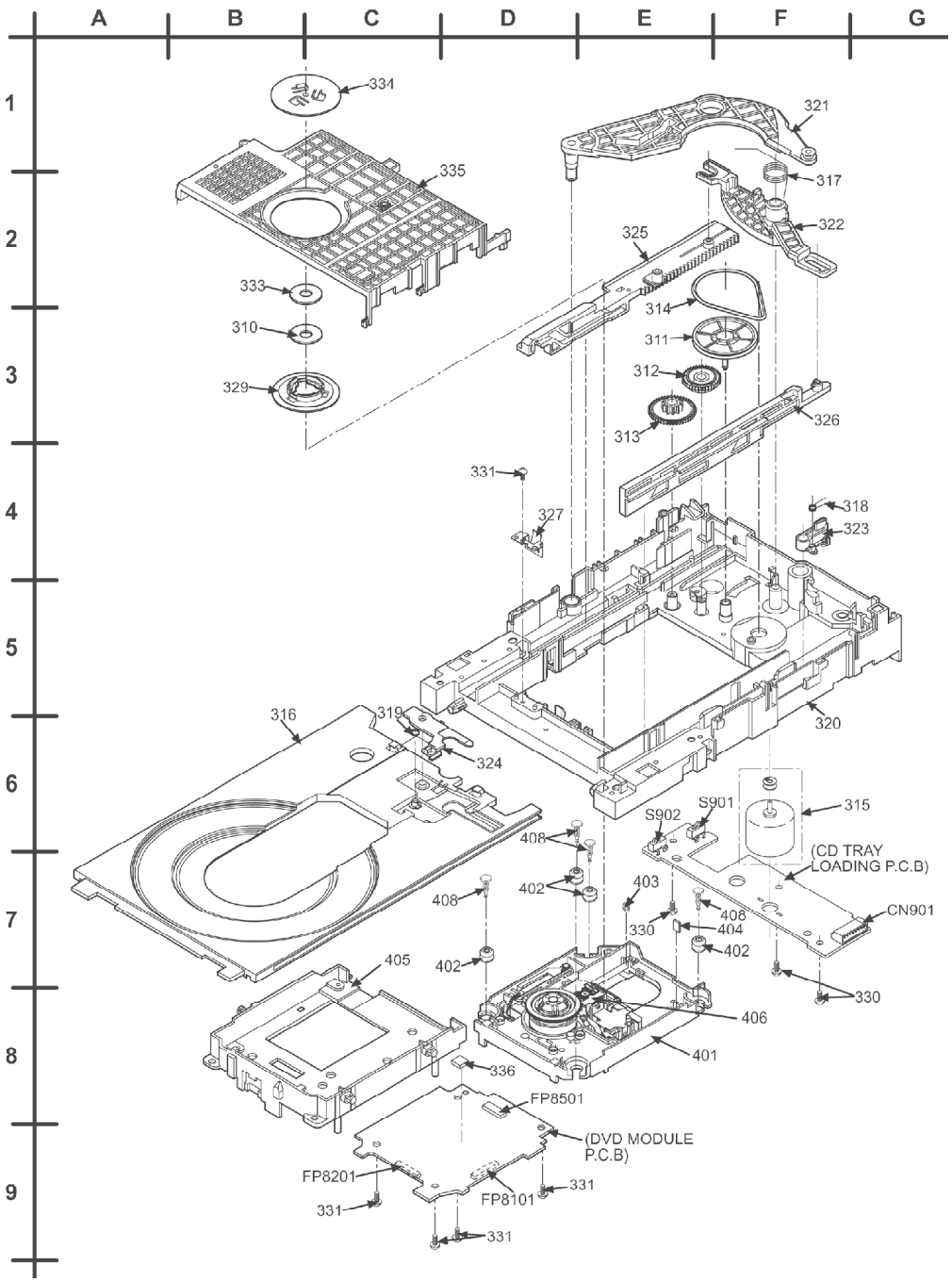
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- [M] indicates in the Remarks columns indicates parts supplied by PAVCSG.
- [SPC] markings in the Remarks columns indicates parts that are supplied by PAVC (SPG).
- The “(SF)” mark denotes the standard part.
- Reference for O/I book languages are as follows:

Ar :	Arabic	Du :	Dutch	It :	Italian	Sp :	Spanish
Cf :	Canadian French	En :	English	Ko :	Korean	Sw :	Swedish
Cz :	Czech	Fr :	French	Po :	Polish	Co :	Traditio Chinese
Da :	Danish	Ge :	German	Ru :	Russian	Cn :	Simplifie Chinese
Pe :	Persian	Ur:	Ukraine				

26.1. DVD Loading Mechanism

26.1.1. DVD Loading Mechanism Parts Location

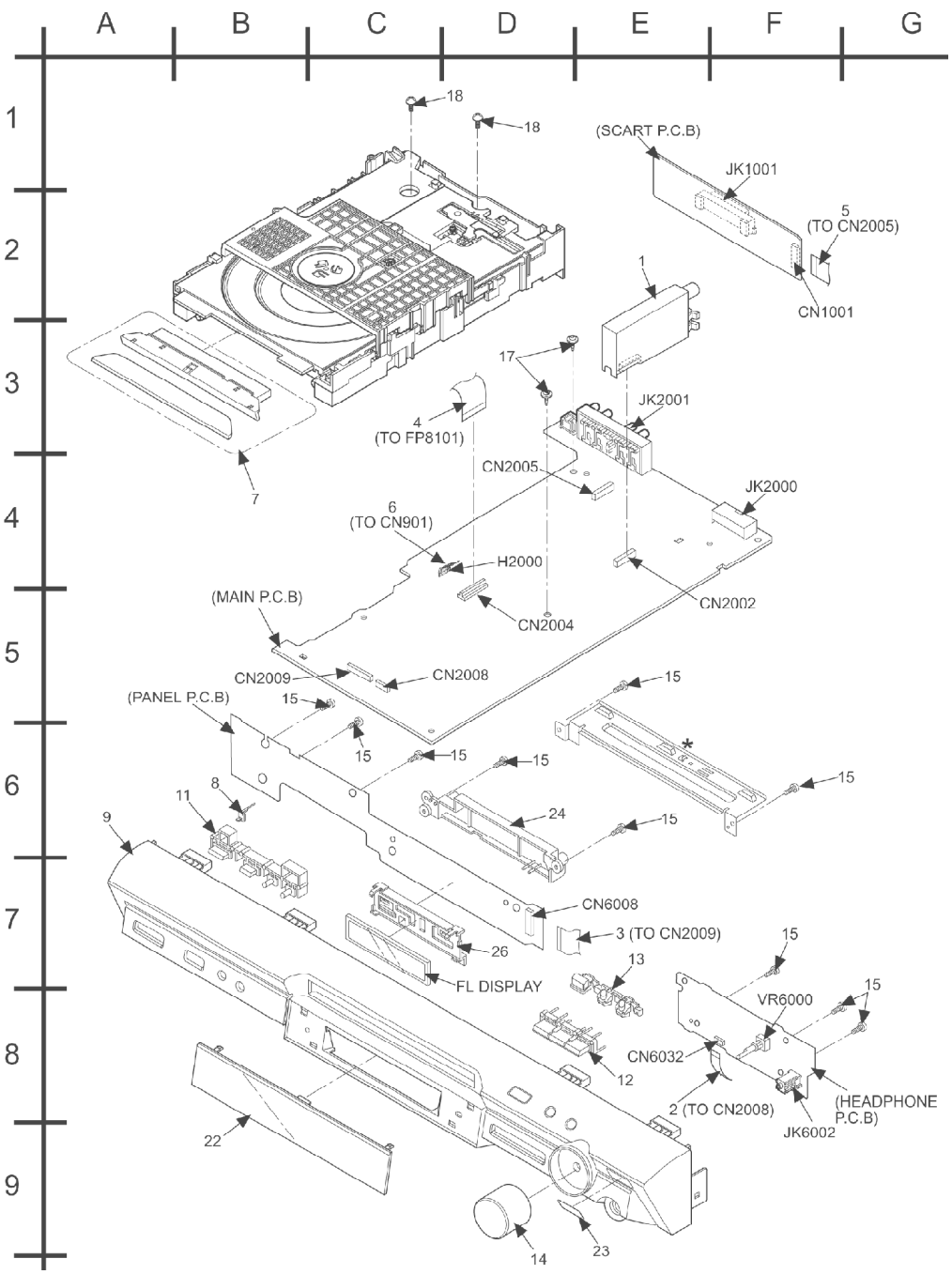


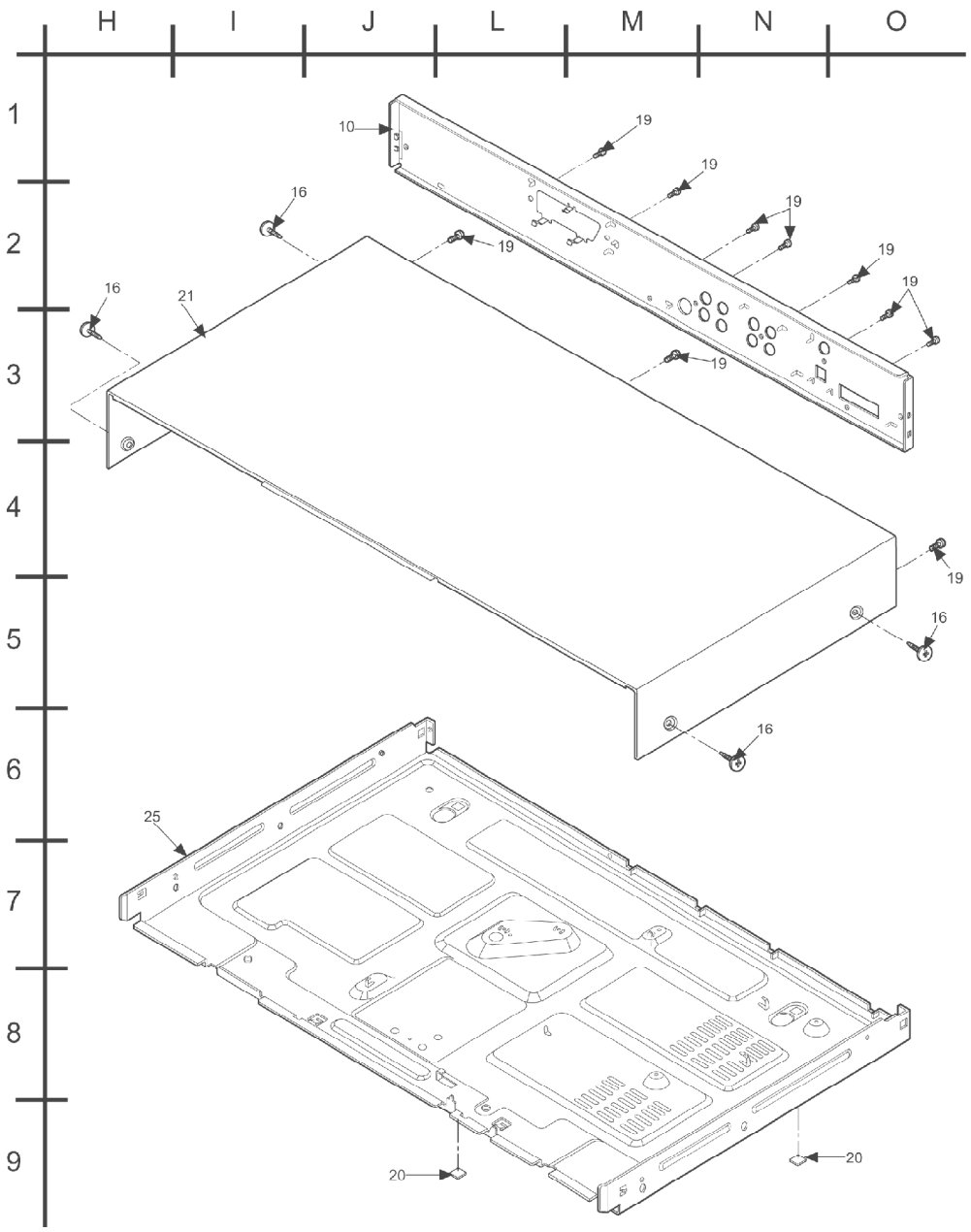
26.1.2. DVD Loading Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
310	RHM0003-J	MAGNET	[M]
311	RDG0547	PULLEY GEAR	[M]
312	RDG0548	RELAY GEAR	[M]
313	RDG0549	DRIVE GEAR	[M]
314	RDV0070	BELT	[M]
315	REM0102	MOTOR UNIT	[M]
316	RGQ0395-K	TRAY	[M]
317	RME0350	CHANGE LEVER SPRING	[M]
318	RME0351	LOCK LEVER SPRING	[M]
319	RME0353	TRAY SLIDER SPRING	[M]
320	RMK0591	MECHA CHASSIS	[M]
321	RML0627-2	DRIVE ARM	[M]
322	RML0628	CHANGE LEVER	[M]
323	RML0629	LOCK LEVER	[M]
324	RML0631	TRAY SLIDER	[M]
325	RMM0247-2	DRIVE RACK	[M]
326	RMM0248	SUB RACK	[M]
327	RMC0387	SUPPORT SPRING	[M]
329	RMR1446-X	CLAMPER	[M]
330	XTN26+6GFJ	SCREW	[M]
331	XTV2+6GFJ	ADDITIONAL SCREWS	[M]
333	XWG6FFY	WASHER	[M]
334	RMR1447-X	MAGNET HOLDER	[M]
335	RMR1468-K	CLAMP PLATE	[M]
336	RMX0290	PLASTIC SHEET	[M]
401	RAE2012Z-S	DU69U	[M]
402	RMG0598-A	FLOATING RUBBER	[M]
403	RMG0617-H	CUSHION RUBBER A	[M]
404	RMG0618-H	CUSHION RUBBER B	[M]
405	RMR1596-X2	MIDDLE CHASSIS	[M]
406	RXQ1252	DVD OPU SUB ASS'Y	[M]
408	RMS0789	FIXED PIN	[M]

26.2. Cabinet

26.2.1. Cabinet Parts Location


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
18
18
(SCART P.C.B)
JK1001
5
(TO CN2005)
CN1001
1
17
JK2001
4
(TO FP8101)
CN2005
JK2000
7
6
(TO CN901)
H2000
CN2002
(MAIN P.C.B)
CN2004
CN2009
CN2008
(PANEL P.C.B)
15
15
15
15
15
15
15
15
24
8
11
9
CN6008
3 (TO CN2009)
26
13
FL DISPLAY
15
VR6000
15
CN6032
12
2 (TO CN2008)
(HEADPHONE
P.C.B)
JK6002
22
14
23



26.2.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	J3CCBC000008	TUNER PACK	[M]
2	REEX0426	10P FFC WIRE (PANEL)	[M]
3	REEX0427	19P FFC WIRE (FL)	[M]
4	REEX0429	50P FFC (MECHA)	[M]
5	REEX0466	10P FFC WIRE (SCA)	[M]
6	REXX0384	7P FLAT WIRE (DVD)	[M]
7	RYQX0207-S	DVD LID ASS'Y	[M]
8	RGLX0105-Q	LIGHTING PIECE	[M]
9	RGPX0170-S1	FRONT PANEL	[M]
10	RGRX0043A-A1	REAR PANEL	[M]
11	RGUX0601-S	POWER BUTTON	[M]
12	RGUX0602-S	OPERATION BUTTON	[M]
13	RGUX0603-S	REV-FWD BUTTON	[M]
14	RGWX0076-S	VOLUME KNOB	[M]
15	RHD26046	SCREW	[M]
16	RHD30007-1SJ	SCREW	[M]
17	RHD30090-1	SCREW	[M]
18	RHD30102-1	SCREW	[M]
19	RHD30119	SCREW	[M]
20	RKA0059-K	LEG RUBBER	[M]
21	RKMX0107-S	TOP CABINET	[M]
22	RKWX0241-Q	FL WINDOW	[M]
23	RKWX0243-S	SENSOR WINDOW	[M]
24	RMAX0071	MECHA SUPPORT	[M]
25	RMKX0102	BOTTOM CHASSIS	[M]
26	RMNX0149	FL HOLDER	[M]

26.3. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REP3867D	DVD MODULE P.C.B. (SIDE A & B)	[M](RTL)
	REPX0452A	MAIN P.C.B.	[M](RTL)
	REPX0456A	PANEL P.C.B.	[M](RTL)
	REPX0452A	SCART P.C.B.	[M](RTL)
	REPX0456A	HEADPHONE P.C.B.	[M](RTL)
	REP3288A	CD TRAY LOADING P.C.B.	[M](RTL)
		INTEGRATED CIRCUITS	
IC904	C0GAH0000002	IC REFLECTIVE PHOTO SENSOR	[M]
IC1001	C9ZB00000431	IC VIDEO SELECTOR	[M]
IC1003	C1AB00001731	IC V.BUFFER	[M]
IC2006	C9ZB00000466	IC VIDEO SELECTOR	[M]
IC2009	C1AB00001486	IC V. BUFFER	[M]
IC2010	C0ABBB000118	IC DUAL OP AMP	[M]
IC2011	C1BB00000845	IC ASP	[M]
IC2013	C0AABB000125	IC DUAL OP AMP	[M]
IC2014	C1BB00000979	IC ANALOG SURROUND	[M]
IC2015	C0ABBB000118	IC DUAL OP AMP	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IC2018	C2CBHG000168	IC MICROPROCESSOR	[M]
IC2020	C1BB00001008	IC RDS	[M]
IC2601	C0ABBB000118	IC DUAL OP AMP	[M]
IC2602	C0ABBB000118	IC DUAL OP AMP	[M]
IC2801	C0DAAZG00012	IC DC-TO-DC CONVERTER	[M]
IC2802	C0CBADG00023	IC 5V REGULATOR	[M]
IC2803	C0DBEZG00021	IC REGULATOR	[M]
IC6000	C0HBB0000044	IC FL DRIVER	[M]
IC8001	MN2DS0003APH	IC DV2.1	[M]
IC8051	C3ABPG000133	IC 64 SDRAM	[M]
IC8111	C0CBCBD00018	IC 3.3 REGULATOR	[M]
IC8251	C0GBG0000048	IC DRIVE	[M]
IC8421	C0FBBK000050	IC 8-CH DAC	[M]
IC8601	C0EBE0000384	IC RESET	[M]
IC8606	C0EBA0000031	IC RESET	[M]
IC8651	RFKWMH82B160	IC 16M FLASH ROM	[SPC]
IC8691	C0JBAA000346	IC AND GATE LOGIC	[M]
IC8695	C0JBAA000346	IC AND GATE LOGIC	[M]
		TRANSISTORS	
Q1001	2SB0709AHL	TRANSISTOR	[M]
Q1004	UNR221200L	TRANSISTOR	[M]
Q1005	2SD0601AHL	TRANSISTOR	[M]
Q1006	UNR221200L	TRANSISTOR	[M]
Q1007	UNR211H00L	TRANSISTOR	[M]
Q1008	XN0460100L	TRANSISTOR	[M]
Q1010	B1AAKD000012	TRANSISTOR	[M]
Q1101	2SD0601AHL	TRANSISTOR	[M]
Q1201	2SD0601AHL	TRANSISTOR	[M]
Q2000	B1GBCFLL0037	TRANSISTOR	[M]
Q2003	B1GBCFJN0033	TRANSISTOR	[M]
Q2004	B1GBCFJN0033	TRANSISTOR	[M]
Q2005	B1GBCFJN0033	TRANSISTOR	[M]
Q2006	2SB0709AHL	TRANSISTOR	[M]
Q2007	2SB0709AHL	TRANSISTOR	[M]
Q2028	B1GBCFJN0033	TRANSISTOR	[M]
Q2029	B1GBCFJN0033	TRANSISTOR	[M]
Q2030	B1GBCFJN0033	TRANSISTOR	[M]
Q2102	B1GFGCAA0001	TRANSISTOR	[M]
Q2103	B1GDCFGA0014	TRANSISTOR	[M]
Q2104	B1GFGCAA0001	TRANSISTOR	[M]
Q2105	B1GDCFGA0014	TRANSISTOR	[M]
Q2200	B1GFGCAA0001	TRANSISTOR	[M]
Q2201	B1GDCFGA0014	TRANSISTOR	[M]
Q2500	B1GDCFGA0014	TRANSISTOR	[M]
Q2600	B1GDCFGA0014	TRANSISTOR	[M]
Q2601	B1GFGCAA0001	TRANSISTOR	[M]
Q2604	B1ABEB000001	TRANSISTOR	[M]
Q2605	B1GDCFGA0014	TRANSISTOR	[M]
Q2607	B1ABCE000016	TRANSISTOR	[M]
Q2608	B1ABEB000001	TRANSISTOR	[M]
Q2609	B1GDCFGA0014	TRANSISTOR	[M]
Q2701	B1GDCFGA0014	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q2801	B1ADCF000001	TRANSISTOR	[M]
Q2803	B1BCCG000021	TRANSISTOR	[M]
Q2804	B1ABCE000016	TRANSISTOR	[M]
Q2805	B1ABCE000016	TRANSISTOR	[M]
Q2806	B1BCCD000016	TRANSISTOR	[M]
Q2807	B1BCCD000016	TRANSISTOR	[M]
Q2808	B1ADCF000001	TRANSISTOR	[M]
Q2809	B1ACKD000005	TRANSISTOR	[M]
Q2813	B1AAKD000009	TRANSISTOR	[M]
Q2814	B1BACD000017	TRANSISTOR	[M]
Q2816	B1BACD000017	TRANSISTOR	[M]
Q2818	B1GBCFJA0028	TRANSISTOR	[M]
Q8550	2SB1219AHL	TRANSISTOR	[M]
Q8551	2SD1819A0L	TRANSISTOR	[M]
Q8552	2SB09700RL	TRANSISTOR	[M]
Q8560	2SD1819A0L	TRANSISTOR	[M]
Q8561	2SD1819A0L	TRANSISTOR	[M]
Q8562	2SB09700RL	TRANSISTOR	[M]
Q8606	2SD1819A0L	TRANSISTOR	[M]
Q8607	2SD1819A0L	TRANSISTOR	[M]
QR8111	UNR521400L	TRANSISTOR	[M]
QR8112	UNR521400L	TRANSISTOR	[M]
QR8420	UNR521100L	TRANSISTOR	[M]
QR8571	UNR511V00L	TRANSISTOR	[M]
		DIODES	
D1002	B0BC01300001	DIODE	[M]
D2000	B0ACCE000003	DIODE	[M]
D2001	B0ACCE000003	DIODE	[M]
D2002	B0ACCE000003	DIODE	[M]
D2003	B0ACCK000005	DIODE	[M]
D2041	B0EAKM000117	DIODE	[M]
D2042	B0EAKM000117	DIODE	[M]
D2601	B0ACCK000005	DIODE	[M]
D2801	B0JCPD000025	DIODE	[M]
D2802	B0BC7R500001	DIODE	[M]
D2803	B0ACCK000005	DIODE	[M]
D2804	B0BC9R000008	DIODE	[M]
D2805	B0ECKM000016	DIODE	[M]
D2806	B0ECKM000016	DIODE	[M]
D2807	B0ACCK000005	DIODE	[M]
D2808	B0ACCK000005	DIODE	[M]
D2809	B0EAKM000117	DIODE	[M]
D2810	B0EAKM000117	DIODE	[M]
D2811	B0EAKM000117	DIODE	[M]
D2812	B0EAKM000117	DIODE	[M]
D2813	B0EAKM000117	DIODE	[M]
D2814	B0EAKM000117	DIODE	[M]
D2815	B0EAKM000117	DIODE	[M]
D2816	B0EAKM000117	DIODE	[M]
D2817	B0EAKM000117	DIODE	[M]
D2818	MAZ82200ML	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D2822	B0FBAM000010	DIODE	[M]
D2823	B0BC5R600003	DIODE	[M]
D2824	B0BC7R500001	DIODE	[M]
D2825	B0EAKM000117	DIODE	[M]
D2826	B0EAKM000117	DIODE	[M]
D2827	B0EAKM000117	DIODE	[M]
D2829	B0ACCK000005	DIODE	[M]
D2830	B0BC01000014	DIODE	[M]
D2831	B0EAKM000117	DIODE	[M]
D2850	B0ACCK000005	DIODE	[M]
D2851	B0ADCJ000020	DIODE	[M]
D2852	B0ACCK000005	DIODE	[M]
D2853	B0ACCK000005	DIODE	[M]
D6000	B3AAA0000583	DIODE	[M]
D6006	B0BC5R000009	DIODE	[M]
D6008	B0BC5R000009	DIODE	[M]
D8231	MA2J11100L	DIODE	[M]
D8550	MA2J11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		VARIABLE RESISTOR	
VR6000	EVEKE2F3024M	VR VOLUME JOG	[M]
		SWITCHES	
S901	RSH1A044-1A	SW PLAY	[M]
S902	RSH1A044-1A	SW OPEN	[M]
S6000	EVQ21405R	SW OPEN/CLOSE	[M]
S6001	EVQ21405R	SW FF	[M]
S6002	EVQ21405R	SW REW	[M]
S6003	EVQ21405R	SW STOP	[M]
S6004	EVQ21405R	SW PAUSE	[M]
S6005	EVQ21405R	SW PLAY	[M]
S6011	EVQ21405R	SW POWER	[M]
S6012	EVQ21405R	SW SELECTOR	[M]
S6013	EVQ21405R	SW RDS	[M]
S6014	EVQ21405R	SW H_BASS	[M]
		CONNECTORS	
CN901	K1KA07B00027	7P CONNECTOR	[M]
CN1001	K1MN19B00026	19P CONNECTOR	[M]
CN2002	K1KA10A00263	10P CONNECTOR	[M]
CN2004	K1MN50A00008	50P CONNECTOR	[M]
CN2005	K1MN19A00036	19P CONNECTOR	[M]
CN2008	K1MN10A00052	10P CONNECTOR	[M]
CN2009	K1MN19A00036	19P CONNECTOR	[M]
CN6008	K1MN19B00026	19P CONNECTOR	[M]
CN6032	K1MN10B00088	10P CONNECTOR	[M]
FP8101	K1MN50B00031	50P CONNECTOR	[M]
FP8201	K1MN06B00080	6P CONNECTOR	[M]
FP8501	K1MN26B00094	26P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		COILS & TRANSFORMERS	
L1002	J0JBC0000015	CHIP INDUCTOR	[M]
L1020	J0JBC0000015	CHIP INDUCTOR	[M]
L1021	J0JBC0000015	CHIP INDUCTOR	[M]
L1022	J0JBC0000015	CHIP INDUCTOR	[M]
L1023	J0JBC0000015	CHIP INDUCTOR	[M]
L2000	G0C3R3JA0027	COIL	[M]
L2001	G0C101JA0052	INDUCTOR	[M]
L2002	G0C101JA0052	INDUCTOR	[M]
L2010	ELESN220JA	COIL	[M]
L2022	J0JBC0000015	CHIP INDUCTOR	[M]
L2023	J0JBC0000015	CHIP INDUCTOR	[M]
L2024	J0JBC0000015	CHIP INDUCTOR	[M]
L2025	J0JBC0000015	CHIP INDUCTOR	[M]
L2026	J0JBC0000015	CHIP INDUCTOR	[M]
L2027	J0JBC0000015	CHIP INDUCTOR	[M]
L2028	J0JBC0000019	CHIP INDUCTOR	[M]
L2801	G0ZZ00001930	COIL	[M]
L2802	G0A200D00002	COIL	[M]
L2803	G0A200D00002	COIL	[M]
L6000	J0JBC0000019	CHIP INDUCTOR	[M]
L6001	J0JBC0000019	CHIP INDUCTOR	[M]
L6002	J0JBC0000019	CHIP INDUCTOR	[M]
L6003	J0JBC0000041	CHIP INDUCTOR	[M]
L8201	G1C100K00020	CHIP INDUCTOR	[M]
L8202	J0JCC0000079	FILTER	[M]
L8301	G1C100KA0055	CHIP INDUCTOR	[M]
L8302	J0JCC0000079	FILTER	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
		COMPONENT COMBINATION	
Z6000	B3RAB0000025	REMOTE SENSOR	[M]
		OSCILLATORS	
X2000	H2B100500004	CERAMIC RESONATOR	[M]
X2001	H0H433400001	CRYSTAL OSCILLATOR	[M]
X8621	H0J270500085	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBES	
FL6000	A2BD00000108	FL DISPLAY	[M]
FL8101	F1H0J1050022	CHIP CAPACITOR	[M]
FL8102	F1H0J1050022	CHIP CAPACITOR	[M]
FL8103	F1H0J1050022	CHIP CAPACITOR	[M]
FL8104	F1J1E1040022	CHIP CAPACITOR	[M]
		HOLDER	
H2000	RMR0316	7P WIRE HOLDER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		FUSE PROTECTOR	
FP2000	**K5G202AA0002**	**FUSE PROTECTOR**	**[M]** ⚠
		JACKS	
JK1001	**K1FB121A0007**	**JK SCART TERMINAL**	**[M]**
JK2000	**K1FB125B0097**	**JK SYSTEM CONNECTOR**	**[M]**
JK2001	**K2HZ921B0002**	**JK COMBO**	**[M]**
JK6002	**K2HC103A0023**	**JK SMALL SIGN**	**[M]**
		EARTH TERMINAL	
E2000	**K4CZ01000027**	**TERMINALS**	**[M]**
		CHIP RESISTORS	
W601	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W603	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1009	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1019	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1020	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1021	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1022	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W1208	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2001	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2002	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2003	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2004	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2005	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2009	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2012	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2013	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2014	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2015	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2016	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2017	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2018	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2019	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2023	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2026	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2027	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2028	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2029	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2030	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2031	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2032	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2033	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2041	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2042	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2043	**ERJ3GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2044	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2045	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**
W2049	**ERJ6GEY0R00V**	**CHIP RESISTOR**	**[M]**

[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Remarks
W2051	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2052	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2055	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2056	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2057	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2058	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2059	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2060	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2061	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2062	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2064	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2065	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2068	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2071	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2072	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2074	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2076	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2086	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2119	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2128	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W3000	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W4000	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W6001	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6002	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6003	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6005	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6006	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6010	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6011	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6012	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6013	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6014	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6015	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W6033	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6034	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6035	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W6036	ERJ3GEY0R00V	CHIP RESISTOR	[M]
RX8011	D1H88204A024	CHIP RESISTOR	[M]
RX8012	D1H88204A024	CHIP RESISTOR	[M]
RX8013	D1H88204A024	CHIP RESISTOR	[M]
RX8014	D1H88204A024	CHIP RESISTOR	[M]
RX8015	D1H422020001	CHIP RESISTOR	[M]
RX8016	D1H88204A024	CHIP RESISTOR	[M]
RX8017	D1H88204A024	CHIP RESISTOR	[M]
RX8018	D1H88204A024	CHIP RESISTOR	[M]
RX8021	D1H410320002	CHIP RESISTOR	[M]
RX8031	D1H447220001	CHIP RESISTOR	[M]
RX8032	D1H447220001	CHIP RESISTOR	[M]
RX8401	D1H410120001	CHIP RESISTOR	[M]
RX8402	D1H410120001	CHIP RESISTOR	[M]
RX8501	D1H456020001	CHIP RESISTOR	[M]
RX8502	D1H85604A024	CHIP RESISTOR	[M]
RX8503	D1H456020001	CHIP RESISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
RX8504	D1H456020001	CHIP RESISTOR	[M]
RX8611	D1H447220001	CHIP RESISTOR	[M]
		RESISTORS	
R1003	ERJ3RBD102V	1K 3W	[M]
R1004	ERJ3RBD102V	1K 3W	[M]
R1009	ERJ3GEYJ223V	22K 1/16W	[M]
R1015	ERJ3GEYJ183V	18K 1/16W	[M]
R1016	ERJ3GEYJ223V	22K 1/16W	[M]
R1017	ERJ3GEYJ223V	22K 1/16W	[M]
R1018	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1019	ERJ3GEYJ223V	22K 1/16W	[M]
R1020	ERJ3GEYF750V	75 1/16W	[M]
R1021	ERJ3GEYF750V	75 1/16W	[M]
R1022	ERJ3GEYF750V	75 1/16W	[M]
R1023	ERJ3GEYF750V	75 1/16W	[M]
R1024	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1025	ERJ3GEYJ103V	10K 1/16W	[M]
R1026	ERJ3GEYJ103V	10K 1/16W	[M]
R1027	ERJ3GEYJ471V	470 1/16W	[M]
R1030	ERJ3GEYF750V	75 1/16W	[M]
R1031	ERJ3GEYF750V	75 1/16W	[M]
R1040	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1041	ERJ3GEYJ101V	100 1/16W	[M]
R1042	ERJ3GEYJ103V	10K 1/16W	[M]
R1101	ERJ3GEYJ821V	820 1/16W	[M]
R1102	ERJ3GEYJ821V	820 1/16W	[M]
R1103	ERJ3GEYJ221V	220 1/16W	[M]
R1104	ERJ3GEYJ104V	100K 1/16W	[M]
R1201	ERJ3GEYJ821V	820 1/16W	[M]
R1202	ERJ3GEYJ821V	820 1/16W	[M]
R1203	ERJ3GEYJ221V	220 1/16W	[M]
R1204	ERJ3GEYJ104V	100K 1/16W	[M]
R2000	ERJ3GEYJ221V	220 1/16W	[M]
R2001	ERJ3GEYJ221V	220 1/16W	[M]
R2002	ERJ3GEYJ221V	220 1/16W	[M]
R2003	ERJ3GEYJ221V	220 1/16W	[M]
R2006	ERJ3GEYJ221V	220 1/16W	[M]
R2007	ERJ3GEYJ102V	1K 1/16W	[M]
R2008	ERJ3GEYJ103V	10K 1/16W	[M]
R2011	ERJ3GEYJ473V	47K 1/16W	[M]
R2012	ERJ3GEYJ221V	220 1/16W	[M]
R2013	ERJ3GEYJ221V	220 1/16W	[M]
R2014	ERJ3GEYJ221V	220 1/16W	[M]
R2016	ERJ3GEYJ221V	220 1/16W	[M]
R2017	ERJ3GEYJ103V	10K 1/16W	[M]
R2018	ERJ3GEYJ221V	220 1/16W	[M]
R2019	ERJ3GEYJ221V	220 1/16W	[M]
R2021	ERJ3GEYJ473V	47K 1/16W	[M]
R2022	ERJ3GEYJ473V	47K 1/16W	[M]
R2023	ERJ3GEYJ103V	10K 1/16W	[M]
R2025	ERJ3GEYJ221V	220 1/16W	[M]
R2026	ERJ3GEYJ221V	220 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2027	ERJ3GEYJ221V	220 1/16W	[M]
R2028	ERJ3GEYJ102V	1K 1/16W	[M]
R2029	ERJ3GEYJ221V	220 1/16W	[M]
R2030	ERJ3GEYJ221V	220 1/16W	[M]
R2031	ERJ3GEYJ221V	220 1/16W	[M]
R2032	ERJ3GEYJ221V	220 1/16W	[M]
R2033	ERJ3GEYJ221V	220 1/16W	[M]
R2034	ERJ3GEYJ221V	220 1/16W	[M]
R2035	ERJ3GEYJ221V	220 1/16W	[M]
R2036	ERJ3GEYJ102V	1K 1/16W	[M]
R2037	ERJ3GEYJ102V	1K 1/16W	[M]
R2038	ERJ3GEYJ221V	220 1/16W	[M]
R2039	ERJ3GEYJ221V	220 1/16W	[M]
R2040	ERJ3GEYJ221V	220 1/16W	[M]
R2041	ERJ3GEYJ221V	220 1/16W	[M]
R2043	ERJ3GEYJ221V	220 1/16W	[M]
R2047	ERJ3GEYJ221V	220 1/16W	[M]
R2048	ERJ3GEYJ221V	220 1/16W	[M]
R2049	ERJ3GEYJ221V	220 1/16W	[M]
R2050	ERJ3GEYJ221V	220 1/16W	[M]
R2051	ERJ3GEYJ221V	220 1/16W	[M]
R2052	ERJ3GEYJ221V	220 1/16W	[M]
R2053	ERJ3GEYJ221V	220 1/16W	[M]
R2054	ERJ3GEYJ221V	220 1/16W	[M]
R2056	ERJ3GEYJ473V	47K 1/16W	[M]
R2057	ERJ3GEYJ473V	47K 1/16W	[M]
R2058	ERJ3GEYJ563V	56K 1/16W	[M]
R2059	ERJ3GEYJ221V	220 1/16W	[M]
R2060	ERJ3GEYJ101V	100 1/16W	[M]
R2061	ERJ3GEYJ221V	220 1/16W	[M]
R2062	ERJ3GEYJ221V	220 1/16W	[M]
R2064	ERJ3GEYJ101V	100 1/16W	[M]
R2065	ERJ3GEYJ103V	10K 1/16W	[M]
R2066	ERJ3GEYJ103V	10K 1/16W	[M]
R2067	ERJ3GEYJ103V	10K 1/16W	[M]
R2068	ERJ3GEYJ103V	10K 1/16W	[M]
R2069	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2070	ERJ3GEY0R00V	0 1/16W	[M]
R2071	ERJ3GEYJ821V	820 1/16W	[M]
R2072	ERJ3GEYJ101V	100 1/16W	[M]
R2073	ERJ3GEY0R00V	0 1/16W	[M]
R2074	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2076	ERJ3GEYJ104V	100K 1/16W	[M]
R2077	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2078	ERJ3GEYJ471V	470 1/16W	[M]
R2079	ERJ3GEYJ223V	22K 1/16W	[M]
R2080	ERJ3GEYJ103V	10K 1/16W	[M]
R2082	ERJ3GEYJ473V	47K 1/16W	[M]
R2083	ERJ3GEYJ681V	680 1/16W	[M]
R2085	ERJ3GEY0R00V	0 1/16W	[M]
R2087	ERJ3GEYJ102V	1K 1/16W	[M]
R2089	ERJ3GEYJ104V	100K 1/16W	[M]
R2090	ERJ3GEYJ102V	1K 1/16W	[M]
R2091	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2092	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2093	ERJ3GEYJ223V	22K 1/16W	[M]
R2094	ERJ3GEYJ223V	22K 1/16W	[M]
R2100	ERJ3GEYJ102V	1K 1/16W	[M]
R2101	ERJ3GEYJ473V	47K 1/16W	[M]
R2111	ERJ3GEYJ333V	33K 1/16W	[M]
R2112	ERJ3GEYJ103V	10K 1/16W	[M]
R2113	ERJ3GEYJ103V	10K 1/16W	[M]
R2114	ERJ3GEYJ103V	10K 1/16W	[M]
R2115	ERJ3GEYJ273V	27K 1/16W	[M]
R2116	ERJ3GEYJ104V	100K 1/16W	[M]
R2117	ERJ3GEYJ104V	100K 1/16W	[M]
R2129	ERJ3GEYJ123V	12K 1/16W	[M]
R2130	ERJ3GEYJ103V	10K 1/16W	[M]
R2131	ERJ3GEYJ103V	10K 1/16W	[M]
R2132	ERJ3GEYJ103V	10K 1/16W	[M]
R2133	ERJ3GEYJ103V	10K 1/16W	[M]
R2144	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2145	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2146	ERJ3GEYJ333V	33K 1/16W	[M]
R2147	ERJ3GEYJ220V	22 1/16W	[M]
R2148	ERJ3GEYJ220V	22 1/16W	[M]
R2149	ERJ3GEYJ220V	22 1/16W	[M]
R2150	ERJ3GEYJ220V	22 1/16W	[M]
R2151	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2152	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2153	ERJ3GEYJ100V	10 1/16W	[M]
R2154	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2155	ERJ3GEYJ104V	100K 1/16W	[M]
R2156	ERJ3GEYJ103V	10K 1/16W	[M]
R2157	ERJ3GEYJ123V	12K 1/16W	[M]
R2160	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2161	ERJ3GEYJ333V	33K 1/16W	[M]
R2162	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2163	ERJ3GEYJ102V	1K 1/16W	[M]
R2164	ERJ3GEYJ273V	27K 1/16W	[M]
R2165	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2166	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2167	ERJ3GEYJ123V	12K 1/16W	[M]
R2168	ERJ3GEYJ223V	22K 1/16W	[M]
R2169	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2170	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2172	ERJ3GEY0R00V	0 1/16W	[M]
R2178	ERJ3GEYJ223V	22K 1/16W	[M]
R2200	ERJ3GEYJ102V	1K 1/16W	[M]
R2201	ERJ3GEYJ473V	47K 1/16W	[M]
R2211	ERJ3GEYJ333V	33K 1/16W	[M]
R2212	ERJ3GEYJ103V	10K 1/16W	[M]
R2213	ERJ3GEYJ103V	10K 1/16W	[M]
R2214	ERJ3GEYJ103V	10K 1/16W	[M]
R2215	ERJ3GEYJ273V	27K 1/16W	[M]
R2216	ERJ3GEYJ104V	100K 1/16W	[M]
R2217	ERJ3GEYJ104V	100K 1/16W	[M]
R2229	ERJ3GEYJ103V	10K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2230	ERJ3GEYJ103V	10K 1/16W	[M]
R2231	ERJ3GEYJ103V	10K 1/16W	[M]
R2232	ERJ3GEYJ103V	10K 1/16W	[M]
R2235	ERJ3GEYJ123V	12K 1/16W	[M]
R2244	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2245	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2246	ERJ3GEYJ333V	33K 1/16W	[M]
R2247	ERJ3GEYJ220V	22 1/16W	[M]
R2248	ERJ3GEYJ220V	22 1/16W	[M]
R2249	ERJ3GEYJ220V	22 1/16W	[M]
R2250	ERJ3GEYJ220V	22 1/16W	[M]
R2251	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2252	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2253	ERJ3GEYJ100V	10 1/16W	[M]
R2254	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2255	ERJ3GEYJ104V	100K 1/16W	[M]
R2256	ERJ3GEYJ103V	10K 1/16W	[M]
R2257	ERJ3GEYJ123V	12K 1/16W	[M]
R2260	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2261	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2262	ERJ3GEYJ333V	33K 1/16W	[M]
R2263	ERJ3GEYJ102V	1K 1/16W	[M]
R2264	ERJ3GEYJ273V	27K 1/16W	[M]
R2265	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2266	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2267	ERJ3GEYJ563V	56K 1/16W	[M]
R2268	ERJ3GEYJ273V	27K 1/16W	[M]
R2269	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2271	ERJ3GEY0R00V	0 1/16W	[M]
R2278	ERJ3GEYJ223V	22K 1/16W	[M]
R2300	ERJ3GEYJ103V	10K 1/16W	[M]
R2301	ERJ3GEYJ302V	3K 1/16W	[M]
R2302	ERJ3GEYJ103V	10K 1/16W	[M]
R2303	ERJ3GEYJ473V	47K 1/16W	[M]
R2304	ERJ3GEYJ752V	7.5K 1/16W	[M]
R2305	ERJ3GEYJ102V	1K 1/16W	[M]
R2306	ERJ3GEYJ104V	100K 1/16W	[M]
R2307	ERJ3GEYJ101V	100 1/16W	[M]
R2308	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2309	ERJ3GEYJ563V	56K 1/16W	[M]
R2310	ERJ3GEYJ273V	27K 1/16W	[M]
R2311	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2312	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2400	ERJ3GEYJ103V	10K 1/16W	[M]
R2401	ERJ3GEYJ302V	3K 1/16W	[M]
R2402	ERJ3GEYJ103V	10K 1/16W	[M]
R2403	ERJ3GEYJ473V	47K 1/16W	[M]
R2404	ERJ3GEYJ752V	7.5K 1/16W	[M]
R2405	ERJ3GEYJ102V	1K 1/16W	[M]
R2406	ERJ3GEYJ104V	100K 1/16W	[M]
R2407	ERJ3GEYJ101V	100 1/16W	[M]
R2500	ERJ3GEYJ103V	10K 1/16W	[M]
R2501	ERJ3GEYJ473V	47K 1/16W	[M]
R2502	ERJ3GEYJ752V	7.5K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2503	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2504	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2505	ERJ3GEYJ102V	1K 1/16W	[M]
R2506	ERJ3GEYJ333V	33K 1/16W	[M]
R2507	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2508	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2509	ERJ3GEYJ563V	56K 1/16W	[M]
R2510	ERJ3GEYJ273V	27K 1/16W	[M]
R2511	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2515	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2521	ERJ3GEY0R00V	0 1/16W	[M]
R2600	ERJ3GEYJ103V	10K 1/16W	[M]
R2603	ERJ3GEYJ203V	20K 1/16W	[M]
R2604	ERJ3GEYJ333V	33K 1/16W	[M]
R2605	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2606	ERJ3GEYJ103V	10K 1/16W	[M]
R2607	ERJ3GEYJ223V	22K 1/16W	[M]
R2608	ERJ3GEYJ184V	180K 1/16W	[M]
R2609	ERJ3GEYJ563V	56K 1/16W	[M]
R2610	ERJ3GEYJ152V	1.5K 1/16W	[M]
R2611	ERJ3GEYJ563V	56K 1/16W	[M]
R2612	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2613	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2614	ERJ3GEYJ102V	1K 1/16W	[M]
R2615	ERJ3GEYJ104V	100K 1/16W	[M]
R2616	ERJ3GEYJ273V	27K 1/16W	[M]
R2617	ERJ3GEYJ273V	27K 1/16W	[M]
R2618	ERJ3GEYJ102V	1K 1/16W	[M]
R2619	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2620	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2621	ERJ3GEYJ563V	56K 1/16W	[M]
R2622	ERJ3GEYJ273V	27K 1/16W	[M]
R2623	ERJ3GEYJ104V	100K 1/16W	[M]
R2624	ERJ3GEYJ104V	100K 1/16W	[M]
R2625	ERJ3GEYJ223V	22K 1/16W	[M]
R2627	ERJ3GEYJ104V	100K 1/16W	[M]
R2629	ERJ3GEYJ333V	33K 1/16W	[M]
R2630	ERJ3GEYJ104V	100K 1/16W	[M]
R2631	ERJ3GEYJ104V	100K 1/16W	[M]
R2632	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2633	ERJ3GEYJ104V	100K 1/16W	[M]
R2634	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2635	ERJ3GEYJ103V	10K 1/16W	[M]
R2636	ERJ3GEYJ103V	10K 1/16W	[M]
R2637	ERJ3GEYJ102V	1K 1/16W	[M]
R2638	ERJ3GEYJ104V	100K 1/16W	[M]
R2639	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2640	ERJ3GEY0R00V	0 1/16W	[M]
R2641	ERJ3GEYJ392V	3.9K 1/16W	[M]
R2642	ERJ3GEYJ683V	68K 1/16W	[M]
R2643	ERJ3GEYJ104V	100K 1/16W	[M]
R2644	ERJ3GEYJ273V	27K 1/16W	[M]
R2645	ERJ3GEYJ563V	56K 1/16W	[M]
R2646	ERJ3GEYJ182V	1.8K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2647	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2648	ERJ3GEYJ103V	10K 1/16W	[M]
R2649	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2650	ERJ3GEYJ333V	33K 1/16W	[M]
R2651	ERJ3GEYJ123V	12K 1/16W	[M]
R2652	ERJ3GEYJ104V	100K 1/16W	[M]
R2654	ERJ3GEYJ103V	10K 1/16W	[M]
R2655	ERJ3GEYJ103V	10K 1/16W	[M]
R2656	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2657	ERJ3GEYJ104V	100K 1/16W	[M]
R2658	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2659	ERJ3GEYJ563V	56K 1/16W	[M]
R2660	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2661	ERJ3GEYJ273V	27K 1/16W	[M]
R2662	ERJ3GEYJ104V	100K 1/16W	[M]
R2663	ERJ3GEYJ392V	3.9K 1/16W	[M]
R2664	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2703	ERJ3GEYJ273V	27K 1/16W	[M]
R2704	ERJ3GEYJ563V	56K 1/16W	[M]
R2705	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2801	ERJ3GEYJ1R0V	1 1/16W	[M]
R2803	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2804	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2805	ERJ3GEYJ1R0V	1 1/16W	[M]
R2806	ERJ3GEYJ1R0V	1 1/16W	[M]
R2807	ERJ3RED680V	68 3W	[M]
R2808	ERJ3GEYJ1R0V	1 1/16W	[M]
R2809	ERJ3RED680V	68 3W	[M]
R2811	ERJ3GEYJ103V	10K 1/16W	[M]
R2812	ERJ3RBD182V	1.8K 3W	[M]
R2813	ERJ3GEYJ471V	470 1/16W	[M]
R2814	ERJ3GEYJ102V	1K 1/16W	[M]
R2815	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2816	ERJ3GEYJ102V	1K 1/16W	[M]
R2817	ERJ3GEYJ102V	1K 1/16W	[M]
R2818	ERJ3RBD182V	1.8K 3W	[M]
R2819	ERJ3GEYJ471V	470 1/16W	[M]
R2820	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2821	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2822	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2823	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2824	ERJ3GEYJ821V	820 1/16W	[M]
R2825	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2826	ERJ3GEYJ681V	680 1/16W	[M]
R2827	ERJ3GEYJ471V	470 1/16W	[M]
R2828	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2829	ERJ3GEYJ102V	1K 1/16W	[M]
R2830	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2831	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2832	ERJ3GEYJ151V	150 1/16W	[M]
R2833	ERJ3GEYJ102V	1K 1/16W	[M]
R2834	ERJ3GEYJ102V	1K 1/16W	[M]
R2835	ERJ3GEYJ681V	680 1/16W	[M]
R2837	ERJ3GEYJ561V	560 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2838	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2839	ERJ3GEYJ821V	820 1/16W	[M]
R2840	ERJ3GEYJ151V	150 1/16W	[M]
R2841	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2842	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2843	ERJ3GEYJ471V	470 1/16W	[M]
R2845	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2846	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2847	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2848	ERJ3GEYJ8R2V	8.2 1/16W	[M]
R2849	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2850	ERJ3GEYJ393V	39K 1/16W	[M]
R2851	ERJ3GEYJ153V	15K 1/16W	[M]
R2854	ERJ3GEYJ101V	100 1/16W	[M]
R2855	ERJ3GEYJ102V	1K 1/16W	[M]
R2856	ERJ3GEYJ823V	82K 1/16W	[M]
R2861	ERJ3GEYJ103V	10K 1/16W	[M]
R2878	ERJ3GEYJ1R0V	1 1/16W	[M]
R2879	ERJ3GEYJ1R0V	1 1/16W	[M]
R2880	ERJ3GEYJ1R0V	1 1/16W	[M]
R2881	ERJ3GEYJ1R0V	1 1/16W	[M]
R2882	ERJ3GEYJ1R0V	1 1/16W	[M]
R2883	ERJ3GEYJ1R0V	1 1/16W	[M]
R2884	ERJ3GEYJ1R0V	1 1/16W	[M]
R2885	ERJ3GEYJ1R0V	1 1/16W	[M]
R2886	D0HB750ZA003	75 3W	[M]
R2887	D0HB750ZA003	75 3W	[M]
R2888	D0HB750ZA003	75 3W	[M]
R2889	D0HB750ZA003	75 3W	[M]
R2890	D0HB750ZA003	75 3W	[M]
R2891	D0HB750ZA003	75 3W	[M]
R2892	ERJ3GEYJ103V	10K 1/16W	[M]
R2893	ERJ3GEYJ153V	15K 1/16W	[M]
R2894	ERJ3GEYJ224V	220K 1/16W	[M]
R2895	ERJ3GEYJ103V	10K 1/16W	[M]
R2897	ERJ3GEYJ102V	1K 1/16W	[M]
R2898	ERJ3GEYJ331V	330 1/16W	[M]
R2905	ERJ3GEYJ1R0V	1 1/16W	[M]
R2916	ERJ3GEY0R00V	0 1/16W	[M]
R2978	ERJ3GEYJ103V	10K 1/16W	[M]
R6005	ERJ3GEYJ681V	680 1/16W	[M]
R6006	ERJ3GEYJ102V	1K 1/16W	[M]
R6007	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6008	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6009	ERJ3GEYJ390V	39 1/16W	[M]
R6011	ERJ3GEYJ151V	150 1/16W	[M]
R6012	ERJ3GEYJ151V	150 1/16W	[M]
R6013	ERJ3GEYJ223V	22K 1/16W	[M]
R6015	ERJ3GEYJ102V	1K 1/16W	[M]
R6017	ERJ3GEYJ102V	1K 1/16W	[M]
R6019	ERJ3GEYJ680V	68 1/16W	[M]
R6022	ERJ3GEYJ102V	1K 1/16W	[M]
R6023	ERJ3GEYJ102V	1K 1/16W	[M]
R6024	ERJ3GEYJ122V	1.2K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6025	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6026	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6027	ERJ3GEYJ102V	1K 1/16W	[M]
R6028	ERJ3GEYJ223V	22K 1/16W	[M]
R6029	ERJ3GEYJ223V	22K 1/16W	[M]
R6030	ERJ3GEYJ223V	22K 1/16W	[M]
R6038	ERJ3GEYJ102V	1K 1/16W	[M]
R6050	ERJ3GEYJ2R7V	2.7 1/16W	[M]
R6051	ERJ3GEYJ2R7V	2.7 1/16W	[M]
R6099	ERJ3GEYJ272V	2.7K 1/16W	[M]
R8011	ERJ2GEJ220X	22 2W	[M]
R8021	ERJ2GEJ103X	10K 2W	[M]
R8022	ERJ2GEJ103X	10K 2W	[M]
R8023	ERJ2GEJ473X	47K 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8111	ERJ2GEJ223X	22K 2W	[M]
R8112	ERJ2GEJ223X	22K 2W	[M]
R8201	ERJ2GEJ222X	2.2K 2W	[M]
R8231	ERJ2GEJ103X	10K 2W	[M]
R8233	ERJ2GEJ153X	15K 2W	[M]
R8235	ERJ2GEJ822X	8.2K 2W	[M]
R8236	ERJ2GEJ822X	8.2K 2W	[M]
R8241	ERJ2GEJ223X	22K 2W	[M]
R8242	ERJ2GEJ752X	7.5K 2W	[M]
R8243	ERJ2GEJ103X	10K 2W	[M]
R8251	ERJ6GEYJ6R8V	6.8 1/10W	[M]
R8261	ERJ2GEJ823X	82K 2W	[M]
R8262	ERJ2GEJ472X	4.7K 2W	[M]
R8263	ERJ2GEJ823X	82K 2W	[M]
R8264	ERJ2GEJ472X	4.7K 2W	[M]
R8265	ERJ2GE0R00X	0 2W	[M]
R8311	ERJ2RHD242X	2.4K 2W	[M]
R8312	ERJ2RHD102X	1K 2W	[M]
R8313	ERJ2RHD243X	24K 2W	[M]
R8314	ERJ2GE0R00X	0 2W	[M]
R8315	ERJ2GEJ6R8X	6.8 2W	[M]
R8321	ERJ3RBD161V	160 3W	[M]
R8322	ERJ2RKD100X	10 2W	[M]
R8325	ERJ3RBD161V	160 3W	[M]
R8326	ERJ2GEJ100X	10 2W	[M]
R8331	ERJ3RBD161V	160 3W	[M]
R8332	ERJ2RKD100X	10 2W	[M]
R8335	ERJ3RED820V	82 3W	[M]
R8341	ERJ3RED820V	82 3W	[M]
R8401	ERJ2GEJ473X	47K 2W	[M]
R8402	ERJ2GEJ101X	100 2W	[M]
R8404	ERJ2GEJ101X	100 2W	[M]
R8407	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ2GEJ222X	2.2K 2W	[M]
R8421	ERJ2GE0R00X	0 2W	[M]
R8501	ERJ2GE0R00X	0 2W	[M]
R8505	ERJ2GEJ222X	2.2K 2W	[M]
R8506	ERJ2GEJ152X	1.5K 2W	[M]
R8550	ERJ2GEJ752X	7.5K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8551	ERJ2GE0R00X	0 2W	[M]
R8552	ERJ2GEJ102X	1K 2W	[M]
R8553	ERJ2GEJ102X	1K 2W	[M]
R8554	ERJ2GEJ680X	68 2W	[M]
R8555	ERJ2GEJ2R2X	2.2 2W	[M]
R8556	ERJ3GEYJ560V	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ2GEJ473X	47K 2W	[M]
R8559	ERJ2GEJ153X	15K 2W	[M]
R8560	ERJ2GEJ102X	1K 2W	[M]
R8561	ERJ2GE0R00X	0 2W	[M]
R8562	ERJ2GEJ102X	1K 2W	[M]
R8563	ERJ2GEJ102X	1K 2W	[M]
R8564	ERJ2GEJ220X	22 2W	[M]
R8565	ERJ2GEJ2R2X	2.2 2W	[M]
R8566	ERJ3GEYJ560V	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ2GEJ473X	47K 2W	[M]
R8569	ERJ2GEJ123X	12K 2W	[M]
R8570	ERJ2GEJ104X	100K 2W	[M]
R8601	ERJ2GEJ102X	1K 2W	[M]
R8606	ERJ2GEJ104X	100K 2W	[M]
R8607	ERJ2GEJ103X	10K 2W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	ERJ2GEJ105X	1M 2W	[M]
R8622	ERJ2RHD102X	1K 2W	[M]
K8003	ERJ2GE0R00X	CHIP JUMPER	[M]
K8008	ERJ2GE0R00X	CHIP JUMPER	[M]
K8031	ERJ2GE0R00X	CHIP JUMPER	[M]
K8106	ERJ3GEY0R00V	CHIP JUMPER	[M]
K8421	ERJ3GEY0R00V	CHIP JUMPER	[M]
		CHIP INDUCTORS	
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8002	J0JHC0000045	CHIP INDUCTOR	[M]
LB8301	J0JCC0000119	CHIP INDUCTOR	[M]
LB8302	J0JCC0000119	CHIP INDUCTOR	[M]
LB8303	J0JCC0000119	CHIP INDUCTOR	[M]
LB8304	J0JCC0000119	CHIP INDUCTOR	[M]
LB8305	J0JCC0000119	CHIP INDUCTOR	[M]
LB8401	ERJ2GEJ151X	CHIP RESISTOR	[M]
LB8421	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8422	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8423	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8424	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8425	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8426	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8427	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8428	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8429	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8430	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8491	ERJ2GE0R00X	CHIP INDUCTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB8502	J0JHC0000045	CHIP INDUCTOR	[M]
LB8503	ERJ2GE0R00X	CHIP INDUCTOR	[M]
LB8504	J0JCC0000119	CHIP INDUCTOR	[M]
LB8505	J0JCC0000119	CHIP INDUCTOR	[M]
LB8507	J0JCC0000119	CHIP INDUCTOR	[M]
LB8511	ERJ3GEY0R00V	CHIP RESISTOR	[M]
LB8512	ERJ3GEY0R00V	CHIP RESISTOR	[M]
LB8513	ERJ3GEY0R00V	CHIP RESISTOR	[M]
LB8514	ERJ3GEY0R00V	CHIP RESISTOR	[M]
LB8690	J0JCC0000091	FILTER	[M]
LB8691	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8692	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8693	ERJ2GEJ101X	CHIP RESISTOR	[M]
		CAPACITORS	
C984	ECA1EAK100XE	10 25V	[M]
C1001	ECEA1CKA101B	100 16V	[M]
C1004	ECJ1VF1H103Z	0.01 50V	[M]
C1005	ECJ1VB1H103K	0.01 50V	[M]
C1006	ECJ1VB1C104K	0.1 16V	[M]
C1007	ECJ1VB1A105K	1 10V	[M]
C1008	ECJ1VB1A105K	1 10V	[M]
C1009	ECJ1VB1A105K	1 10V	[M]
C1010	ECEA1AKA220B	22 10V	[M]
C1012	ECJ1VB1C104K	0.1 16V	[M]
C1013	ECEA0JKA221B	220 6.3V	[M]
C1014	ECEA0JKA221B	220 6.3V	[M]
C1015	ECEA0JKA221B	220 6.3V	[M]
C1016	ECEA0JKA221B	220 6.3V	[M]
C1017	ECEA0JKA221B	220 6.3V	[M]
C1018	ECJ1VB1H103K	0.01 50V	[M]
C1019	ECEA0JKA221B	220 6.3V	[M]
C1020	ECA1HAK2R2XB	2.2 50V	[M]
C1201	ECJ1VB1C104K	0.1 16V	[M]
C2000	ECJ1VB1C104K	0.1 16V	[M]
C2001	ECJ1VB1C104K	0.1 16V	[M]
C2003	ECEA1AKA220B	22 10V	[M]
C2004	ECJ1VB1E103K	0.01 25V	[M]
C2005	ECA1AM102B	1000 10V	[M]
C2006	ECEA1HKA2R2B	2.2 50V	[M]
C2007	ECJ1VB1C104K	0.1 16V	[M]
C2008	ECJ1VB1C104K	0.1 16V	[M]
C2009	ECEA0JKA101B	100 6.3V	[M]
C2010	ECEA1HKA100I	10 50V	[M]
C2011	ECEA1HKA100B	10 50V	[M]
C2012	ECJ1VB1H561K	560P 50V	[M]
C2013	ECJ1VC1H470J	47P 50V	[M]
C2014	ECJ1VB1H331K	330P 50V	[M]
C2015	ECJ1VC1H470J	47P 50V	[M]
C2016	ECJ1VB1H103K	0.01 50V	[M]
C2017	ECJ1VB1H102K	1000P 50V	[M]
C2018	ECEA0JKA470B	47 6.3V	[M]
C2019	ECJ1VB1H331K	330P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2020	ECJ1VB1H331K	330P 50V	[M]
C2021	ECJ1VB1H331K	330P 50V	[M]
C2022	ECJ1VB1H223K	0.022 50V	[M]
C2026	ECJ1VB1H103K	0.01 50V	[M]
C2027	ECJ1VB1H103K	0.01 50V	[M]
C2028	ECJ1VB1A105K	1 10V	[M]
C2029	ECJ1VB1A105K	1 10V	[M]
C2030	ECJ1VB1A105K	1 10V	[M]
C2031	ECJ1VB1A105K	1 10V	[M]
C2032	ECJ1VB1C104K	0.1 16V	[M]
C2033	ECJ1VB1H103K	0.01 50V	[M]
C2034	ECJ1VB1C104K	0.1 16V	[M]
C2035	ECJ1VB1H103K	0.01 50V	[M]
C2036	ECEA1HKA220I	22 50V	[M]
C2037	ECJ1VB1H103K	0.01 50V	[M]
C2038	ECEA1AKA221I	220 10V	[M]
C2039	ECJ1VB1H103K	0.01 50V	[M]
C2040	ECA0JM102B	1000 6.3V	[M]
C2042	ECA0JM102B	1000 6.3V	[M]
C2044	ECA0JM102B	1000 6.3V	[M]
C2046	ECA0JM331I	330 6.3V	[M]
C2047	ECA0JM331I	330 6.3V	[M]
C2053	ECJ1VB1E103K	0.01 25V	[M]
C2090	ECJ1VB1E103K	0.01 25V	[M]
C2101	ECJ1VB1H223K	0.022 50V	[M]
C2102	ECJ1VB1C393K	0.039 16V	[M]
C2112	ECJ1VC1H471J	470P 50V	[M]
C2121	ECJ1VC1H151K	150P 50V	[M]
C2122	ECJ1VC1H391K	390P 50V	[M]
C2123	ECEA1HKA100I	10 50V	[M]
C2124	ECJ1VC1H101K	100P 50V	[M]
C2125	ECJ1VC1H330J	33P 50V	[M]
C2126	ECJ1VB1E103K	0.01 25V	[M]
C2127	ECJ1VB1A105K	1 10V	[M]
C2128	ECJ1VB1A105K	1 10V	[M]
C2130	ECJ1VB1A154K	0.15 10V	[M]
C2131	ECJ1VB1H332K	3300P 50V	[M]
C2133	ECJ1VB1A105K	1 10V	[M]
C2138	ECJ1VC1H221J	220P 50V	[M]
C2139	ECJ1VC1H101K	100P 50V	[M]
C2140	ECJ1VB1H681K	680P 50V	[M]
C2149	ECJ1VB1A105K	1 10V	[M]
C2150	ECEA1HKA010I	1 50V	[M]
C2151	ECJ1VC1H101K	100P 50V	[M]
C2152	ECJ1VC1H470J	47P 50V	[M]
C2153	ECA1CM101B	100 16V	[M]
C2154	ECJ1VB1E103K	0.01 25V	[M]
C2155	ECJ1VB1H102K	1000P 50V	[M]
C2156	ECJ1VB1A105K	1 10V	[M]
C2157	ECEA1HKA100B	10 50V	[M]
C2160	ECJ1VB1H471K	470P 50V	[M]
C2161	ECJ1VB1C104K	0.1 16V	[M]
C2162	ECJ1VB1C333K	0.033 16V	[M]
C2163	ECEA1HKA3R3B	3.3 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2164	ECJ1VB1H272K	2700P 50V	[M]
C2165	ECJ1VB1A124K	0.12 10V	[M]
C2166	ECJ1VB1A124K	0.12 10V	[M]
C2167	ECEA1HKA4R7I	4.7 50V	[M]
C2168	ECEA1HKA3R3I	3.3 50V	[M]
C2169	ECJ1VB1H471K	470P 50V	[M]
C2170	ECEA1HKA4R7I	4.7 50V	[M]
C2171	ECEA1HKA3R3I	3.3 50V	[M]
C2175	ECJ1VB1C563K	0.056 16V	[M]
C2201	ECJ1VB1H223K	0.022 50V	[M]
C2202	ECJ1VB1C393K	0.039 16V	[M]
C2210	ECJ1VB1H223K	0.022 50V	[M]
C2211	ECJ1VB1C823K	0.082 16V	[M]
C2212	ECJ1VC1H471J	470P 50V	[M]
C2219	ECJ1VB1A124K	0.12 10V	[M]
C2220	ECJ1VB1A124K	0.12 10V	[M]
C2221	ECJ1VC1H151K	150P 50V	[M]
C2222	ECJ1VC1H391K	390P 50V	[M]
C2223	ECEA1HKA100I	10 50V	[M]
C2224	ECJ1VC1H101K	100P 50V	[M]
C2225	ECJ1VC1H330J	33P 50V	[M]
C2226	ECJ1VB1E103K	0.01 25V	[M]
C2227	ECJ1VB1A105K	1 10V	[M]
C2228	ECJ1VB1A154K	0.15 10V	[M]
C2229	ECJ1VB1A105K	1 10V	[M]
C2231	ECJ1VB1A105K	1 10V	[M]
C2232	ECJ1VB1H332K	3300P 50V	[M]
C2237	ECJ1VB1C104K	0.1 16V	[M]
C2238	ECJ1VC1H221J	220P 50V	[M]
C2239	ECJ1VC1H101K	100P 50V	[M]
C2249	ECJ1VB1A105K	1 10V	[M]
C2250	ECEA1HKA010I	1 50V	[M]
C2251	ECJ1VC1H101K	100P 50V	[M]
C2252	ECJ1VC1H470J	47P 50V	[M]
C2253	ECA1CM101B	100 16V	[M]
C2254	ECJ1VB1E103K	0.01 25V	[M]
C2255	ECJ1VB1H102K	1000P 50V	[M]
C2256	ECJ1VB1A105K	1 10V	[M]
C2257	ECEA1HKA100B	10 50V	[M]
C2260	ECJ1VB1H471K	470P 50V	[M]
C2261	ECJ1VB1C104K	0.1 16V	[M]
C2262	ECJ1VB1C333K	0.033 16V	[M]
C2263	ECEA1HKA3R3I	3.3 50V	[M]
C2264	ECEA1HKA100I	10 50V	[M]
C2265	ECJ1VB1H272K	2700P 50V	[M]
C2266	ECEA1HKA4R7I	4.7 50V	[M]
C2267	ECEA1HKA4R7I	4.7 50V	[M]
C2270	ECJ1VB1C563K	0.056 16V	[M]
C2271	ECEA1HKA3R3I	3.3 50V	[M]
C2300	ECEA1CKA100B	10 16V	[M]
C2301	ECJ1VB1H471K	470P 50V	[M]
C2302	ECJ1VB1A105K	1 10V	[M]
C2303	ECEA1HKAR33B	0.33 50V	[M]
C2310	ECJ1VB1H223K	0.022 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2320	ECJ1VB1A105K	1 10V	[M]
C2400	ECEA1HKA100B	10 50V	[M]
C2401	ECJ1VB1A105K	1 10V	[M]
C2402	ECJ1VB1H471K	470P 50V	[M]
C2403	ECJ1VB1A105K	1 10V	[M]
C2404	ECEA1HKAR33B	0.33 50V	[M]
C2405	ECJ1VB1A105K	1 10V	[M]
C2500	ECEA1CKA100B	10 16V	[M]
C2501	ECEA1HKA100I	10 50V	[M]
C2502	ECEA1HKA010I	1 50V	[M]
C2503	ECJ1VB1C333K	0.033 16V	[M]
C2504	ECJ1VB1C104K	0.1 16V	[M]
C2505	ECEA1HKA010I	1 50V	[M]
C2506	ECJ1VB1E103K	0.01 25V	[M]
C2507	ECJ1VB1H471K	470P 50V	[M]
C2508	ECEA1HKA4R7I	4.7 50V	[M]
C2511	ECJ1VB1A105K	1 10V	[M]
C2521	ECJ1VB1A105K	1 10V	[M]
C2522	ECJ1VB1A105K	1 10V	[M]
C2600	ECJ1VB1A105K	1 10V	[M]
C2602	ECEA1HKA100I	10 50V	[M]
C2603	ECEA1HKA100I	10 50V	[M]
C2604	ECJ1VB1H222K	2200P 50V	[M]
C2605	ECJ1VB1A474K	0.47 10V	[M]
C2606	ECJ1VB1A124K	0.12 10V	[M]
C2607	ECJ1VB1A474K	0.47 10V	[M]
C2608	ECJ1VB1C104K	0.1 16V	[M]
C2609	ECJ1VB1H562K	5600P 50V	[M]
C2610	ECEA1HKA100B	10 50V	[M]
C2611	ECEA1HKA4R7I	4.7 50V	[M]
C2612	ECEA1HKA4R7I	4.7 50V	[M]
C2613	ECJ1VB1E103K	0.01 25V	[M]
C2615	ECJ1VB1H562K	5600P 50V	[M]
C2616	ECEA1CKA100I	10 16V	[M]
C2617	ECEA1HKA100I	10 50V	[M]
C2618	ECJ1VB1C473K	0.047 16V	[M]
C2619	ECJ1VB1A474K	0.47 10V	[M]
C2620	ECJ1VB1H104K	0.1 50V	[M]
C2621	ECJ1VC1H330J	33P 50V	[M]
C2626	ECJ1VB1C104K	0.1 16V	[M]
C2627	ECEA1HKA100I	10 50V	[M]
C2628	ECEA1HKA010B	1 50V	[M]
C2630	ECEA1HKA100I	10 50V	[M]
C2631	ECEA1HKA4R7I	4.7 50V	[M]
C2632	ECJ1VC1H101K	100P 50V	[M]
C2633	ECJ1VC1H221J	220P 50V	[M]
C2635	ECJ1VB1H223K	0.022 50V	[M]
C2636	ECEA1HKA4R7I	4.7 50V	[M]
C2637	ECEA1HKA4R7I	4.7 50V	[M]
C2701	ECEA1HKA4R7I	4.7 50V	[M]
C2801	ECJ1VC1H101K	100P 50V	[M]
C2802	ECA1EM221B	220 25V	[M]
C2803	ECJ1VC1H101K	100P 50V	[M]
C2804	ECJ1VC1H101K	100P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2805	ECJ1VC1H101K	100P 50V	[M]
C2806	EEUFC0J821B	820P 6.3V	[M]
C2807	ECJ1VC1H101K	100P 50V	[M]
C2808	ECJ1VC1H101K	100P 50V	[M]
C2809	ECEA1EKA330B	33 25V	[M]
C2810	ECJ1VC1H101K	100P 50V	[M]
C2811	ECJ1VB1H103K	0.01 50V	[M]
C2812	ECJ1VC1H101K	100P 50V	[M]
C2813	ECEA1AKA221I	220 10V	[M]
C2814	ECJ1VC1H101K	100P 50V	[M]
C2815	ECJ1VB1H103K	0.01 50V	[M]
C2816	ECJ1VC1H221J	220P 50V	[M]
C2817	ECEA0JKA221B	220 6.3V	[M]
C2818	ECJ1VC1H221J	220P 50V	[M]
C2819	ECJ1VB1A105K	1 10V	[M]
C2820	ECJ1VB1E103K	0.01 25V	[M]
C2821	ECEA0JKA470B	47 6.3V	[M]
C2822	ECJ1VB1E103K	0.01 25V	[M]
C2823	ECJ1VB1A105K	1 10V	[M]
C2824	ECJ1VB1A105K	1 10V	[M]
C2825	ECA0JM331B	330 6.3V	[M]
C2826	ECQB1H104JF4	0.1 50V	[M]
C2827	ECEA1HKA100I	10 50V	[M]
C2828	ECA1HM101B	100 50V	[M]
C2829	ECA1HM101B	100 50V	[M]
C2830	F2A1E1020065	1000P 25V	[M]
C2831	ECEA1CKA470B	47 16V	[M]
C2832	F2A1E1020065	1000P 25V	[M]
C2833	ECEA1CKA470B	47 16V	[M]
C2834	ECA1HM101B	100 50V	[M]
C2835	ECA1HM101B	100 50V	[M]
C2836	ECA1CM101B	100 16V	[M]
C2837	ECJ1VB1H103K	0.01 50V	[M]
C2838	ECJ1VB1H103K	0.01 50V	[M]
C2839	ECEA1AKA330B	33 10V	[M]
C2840	ECJ1VB1C104K	0.1 16V	[M]
C2841	ECA1EM472B	4700 25V	[M]
C2842	ECJ1VB1A105K	1 10V	[M]
C2844	ECJ1VB1H103K	0.01 50V	[M]
C2845	ECJ1VB1C104K	0.1 16V	[M]
C2846	ECA1EM101B	100 25V	[M]
C2847	ECJ1VB1H103K	0.01 50V	[M]
C2848	ECA1EM101B	100 25V	[M]
C2849	ECEA1HKA470I	47 50V	[M]
C2850	ECA1HM221B	220 50V	[M]
C2851	ECJ1VB1H103K	0.01 50V	[M]
C2853	ECEA1HKN4R7B	4.7 50V	[M]
C2854	ECA1EM101B	100 25V	[M]
C2855	ECA1EM101B	100 25V	[M]
C2856	ECA1HM101B	100 50V	[M]
C2857	ECJ1VB1A225K	2.2 10V	[M]
C2858	ECJ1VB1A225K	2.2 10V	[M]
C2859	ECJ1VB1H103K	0.01 50V	[M]
C6000	ECJ1VB1H473K	0.047 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C6001	ECJ1VB1H473K	0.047 50V	[M]
C6002	ECJ1VB1H102K	1000P 50V	[M]
C6003	ECEA1HKA220B	22 50V	[M]
C6005	ECEA1HKA220B	22 50V	[M]
C6006	ECJ1VB1H102K	1000P 50V	[M]
C6007	ECEA1HKA100B	10 50V	[M]
C6008	ECEA0JKS470B	47 6.3V	[M]
C6009	ECJ1VB1H103K	0.01 50V	[M]
C6011	ECEA0JKS101B	100 6.3V	[M]
C6012	ECJ1VB1H103K	0.01 50V	[M]
C6014	ECJ1VC1H101K	100P 50V	[M]
C6015	ECJ1VC1H101K	100P 50V	[M]
C6016	ECJ1VC1H101K	100P 50V	[M]
C6017	ECJ1VC1H101K	100P 50V	[M]
C6021	ECJ1VC1H101K	100P 50V	[M]
C6022	ECJ1VC1H101K	100P 50V	[M]
C6092	ECJ1VB1H104K	0.1 50V	[M]
C6093	ECJ1VB1H104K	0.1 50V	[M]
C8001	F2G0J101A066	100P 6.3V	[M]
C8002	F2G0G331A012	330P 4V	[M]
C8003	ECJ0EB1E222K	2200P 25V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ0EF1C104Z	0.1 16V	[M]
C8006	ECJ0EF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ0EF1C104Z	0.1 16V	[M]
C8009	ECJ0EF1C104Z	0.1 16V	[M]
C8010	ECJ0EF1C104Z	0.1 16V	[M]
C8011	ECJ1VB0J105K	1 6.3V	[M]
C8012	ECJ0EF1C104Z	0.1 16V	[M]
C8013	ECJ0EF1C104Z	0.1 16V	[M]
C8014	ECJ0EF1C104Z	0.1 16V	[M]
C8015	ECJ1VB0J105K	1 6.3V	[M]
C8016	ECJ1VB0J105K	1 6.3V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	ECJ1VB0J105K	1 6.3V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ0EF1C104Z	0.1 16V	[M]
C8023	ECJ1VB0J105K	1 6.3V	[M]
C8024	ECJ1VB0J105K	1 6.3V	[M]
C8025	ECJ0EF1C104Z	0.1 16V	[M]
C8026	ECJ0EB1E222K	2200P 25V	[M]
C8027	ECJ0EF1C104Z	0.1 16V	[M]
C8028	ECJ1VB0J105K	1 6.3V	[M]
C8031	ECJ0EF1C104Z	0.1 16V	[M]
C8051	ECJ1VB0J105K	1 6.3V	[M]
C8052	ECJ0EF1C104Z	0.1 16V	[M]
C8053	ECJ0EC1H221J	220P 50V	[M]
C8054	ECJ1VB0J105K	1 6.3V	[M]
C8055	ECJ1VB0J105K	1 6.3V	[M]
C8056	ECJ0EF1C104Z	0.1 16V	[M]
C8057	ECJ0EB1E222K	2200P 25V	[M]

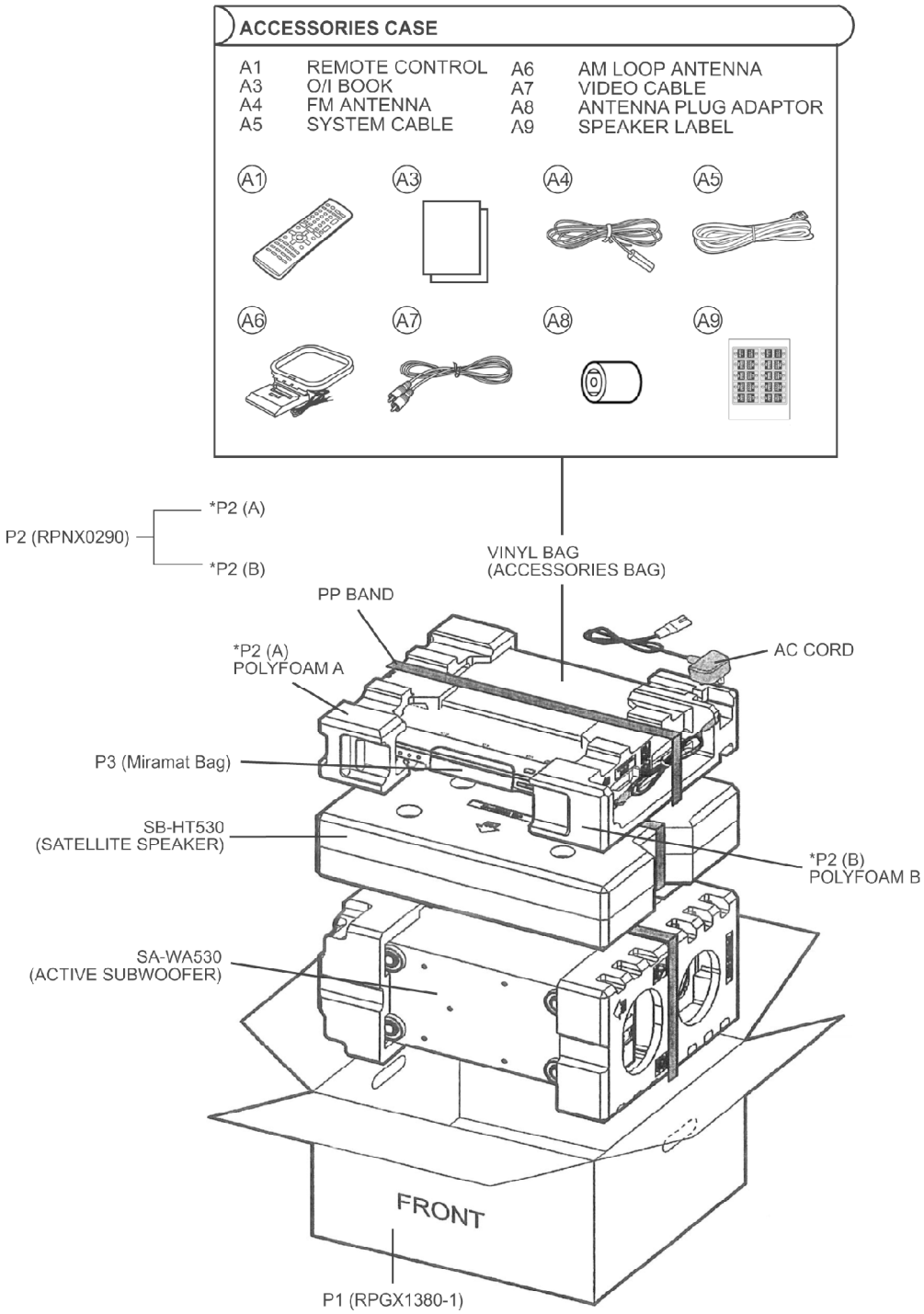
Ref. No.	Part No.	Part Name & Description	Remarks
C8111	ECJ0EB1A104K	0.1 10V	[M]
C8112	ECJ1VB0J105K	1 6.3V	[M]
C8113	ECJ0EB1E471K	470P 25V	[M]
C8201	F2H0J101A003	100P 6.3V	[M]
C8202	F2G0J101A066	100P 6.3V	[M]
C8203	ECJ0EF1C104Z	0.1 16V	[M]
C8204	ECJ0EF1C104Z	0.1 16V	[M]
C8205	ECJ0EF1C104Z	0.1 16V	[M]
C8206	ECJ1VB0J105K	1 6.3V	[M]
C8207	ECJ1VF1C104Z	0.1 16V	[M]
C8208	ECJ0EF1C104Z	0.1 16V	[M]
C8211	ECJ0EB1A333K	0.033 10V	[M]
C8212	ECJ0EF1C104Z	0.1 16V	[M]
C8213	ECJ0EF1C104Z	0.1 16V	[M]
C8214	ECJ0EF1C104Z	0.1 16V	[M]
C8215	ECJ0EB1E562K	5600P 25V	[M]
C8216	ECJ0EB1C183K	0.018 16V	[M]
C8217	ECJ1VB0J105K	1 6.3V	[M]
C8218	ECJ1VB0J105K	1 6.3V	[M]
C8221	ECJ0EB1A104K	0.1 10V	[M]
C8222	ECJ0EB1A104K	0.1 10V	[M]
C8223	ECJ0EB1A104K	0.1 10V	[M]
C8224	ECJ0EB1A104K	0.1 10V	[M]
C8225	ECJ0EF1C104Z	0.1 16V	[M]
C8226	ECJ0EF1C104Z	0.1 16V	[M]
C8227	ECJ0EF1C104Z	0.1 16V	[M]
C8228	ECJ1VB0J105K	1 6.3V	[M]
C8229	ECJ1VB0J105K	1 6.3V	[M]
C8232	ECJ1VF1C104Z	0.1 16V	[M]
C8233	ECJ0EB1E472K	4700P 25V	[M]
C8234	ECJ0EF1C104Z	0.1 16V	[M]
C8235	ECJ0EB1H102K	1000P 50V	[M]
C8236	ECJ0EB1H102K	1000P 50V	[M]
C8237	ECJ0EB1H102K	1000P 50V	[M]
C8238	ECJ0EB1H821K	820P 50V	[M]
C8241	ECJ0EB1A104K	0.1 10V	[M]
C8242	ECJ0EB1A104K	0.1 10V	[M]
C8251	F2G0J221A065	220P 6.3V	[M]
C8252	F2G1C470A076	47P 16V	[M]
C8253	F2H1C220A003	22P 16V	[M]
C8254	ECJ0EF1C104Z	0.1 16V	[M]
C8255	ECJ0EF1C104Z	0.1 16V	[M]
C8256	ECJ0EF1C104Z	0.1 16V	[M]
C8257	ECJ0EF1C104Z	0.1 16V	[M]
C8261	ECJ0EF1C104Z	0.1 16V	[M]
C8262	ECJ0EF1C104Z	0.1 16V	[M]
C8301	F2H0J2210006	220P 6.3V	[M]
C8302	F2H0J330A003	33P 6.3V	[M]
C8303	ECJ0EF1C104Z	0.1 16V	[M]
C8304	ECJ1VB0J105K	1 6.3V	[M]
C8307	ECJ0EF1C104Z	0.1 16V	[M]
C8308	ECJ0EC1H150J	15P 50V	[M]
C8311	ECJ0EF1C104Z	0.1 16V	[M]
C8312	ECJ1VB0J105K	1 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8421	F2G0J101A083	100P 6.3V	[M]
C8422	ECJ0EF1C104Z	0.1 16V	[M]
C8423	F2G0J330A083	33P 6.3V	[M]
C8424	ECJ0EF1C104Z	0.1 16V	[M]
C8426	ECJ0EF1C104Z	0.1 16V	[M]
C8427	ECJ0EF1C104Z	0.1 16V	[M]
C8428	ECJ0EF1C104Z	0.1 16V	[M]
C8501	ECJ3YB1A106M	10 10V	[M]
C8502	ECJ0EF1C104Z	0.1 16V	[M]
C8503	ECJ0EF1C104Z	0.1 16V	[M]
C8504	ECJ0EF1C104Z	0.1 16V	[M]
C8505	ECJ0EC1H221J	220P 50V	[M]
C8506	ECJ0EC1H101J	100P 50V	[M]
C8550	F2H0J330A003	33P 6.3V	[M]
C8551	ECJ0EF1C104Z	0.1 16V	[M]
C8552	F2G1C100A072	10P 16V	[M]
C8553	F2H0J470A003	47P 6.3V	[M]
C8554	ECJ1VB0J105K	1 6.3V	[M]
C8561	ECJ0EF1C104Z	0.1 16V	[M]
C8562	F2G1C100A072	10P 16V	[M]
C8563	F2H0J470A003	47P 6.3V	[M]
C8564	ECJ1VB0J105K	1 6.3V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8606	ECJ0EF1C104Z	0.1 16V	[M]
C8607	ECJ0EB0J224K	0.22 6.3V	[M]
C8611	ECJ0EF1C104Z	0.1 16V	[M]
C8621	ECJ0EC1H120J	12P 50V	[M]
C8622	ECJ0EC1H120J	12P 50V	[M]
C8651	ECJ0EF1C104Z	0.1 16V	[M]
C8652	ECJ0EF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]

26.4. Packing Materials & Accessories Parts List

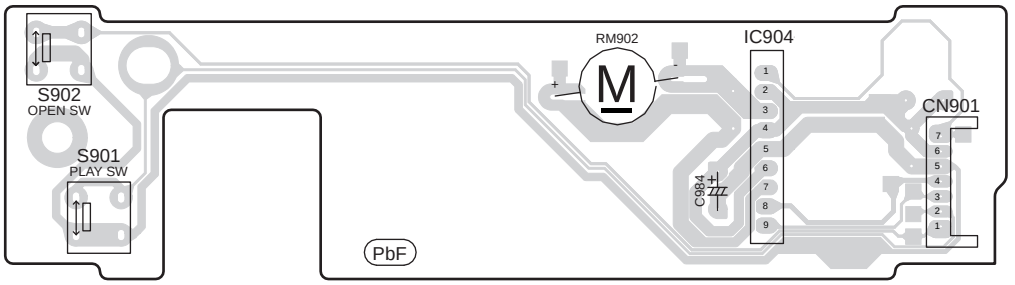
Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX1380-1	PACKING CASE	[M]
P2	RPNX0290	POLYFOAM	[M]
P3	RPFX0058	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	EUR7722XH0	REMOTE CONTROL	[M]
A1-1	UR76EC3103A	R/C BATTERY COVER	[M]
A2	RJA0053-3X	AC CORD	[M] ⚠
A3	RQT7978-B	O/I BOOK (En)	[M]
A4	RSA0007-L	FM ANTENNA	[M]
A5	K1HA25HA0001	SYSTEM CABLE	[M]
A6	N1DAAAA00001	AM LOOP ANTENNA	[M]
A7	K2KA2BA00001	VIDEO CABLE	[M]
A8	K1YZ02000013	ANTENNA PLUG ADAPTOR	[M]
A9	RQCA1029	SPEAKER LABEL	[M]

26.5. Packaging

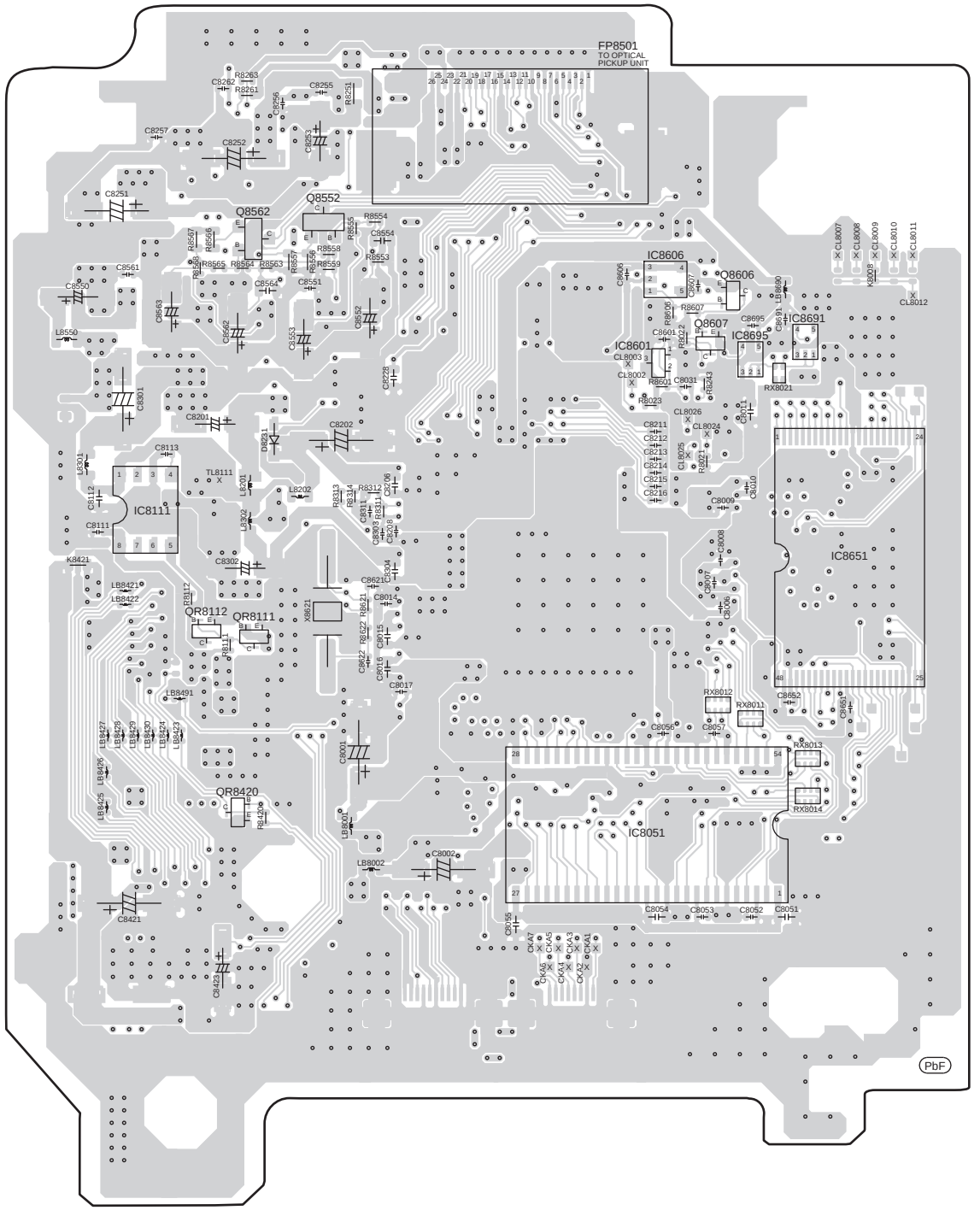


PRT0501D/K/J/E/A/L

F CD TRAY LOADING P.C.B (REP3288A)

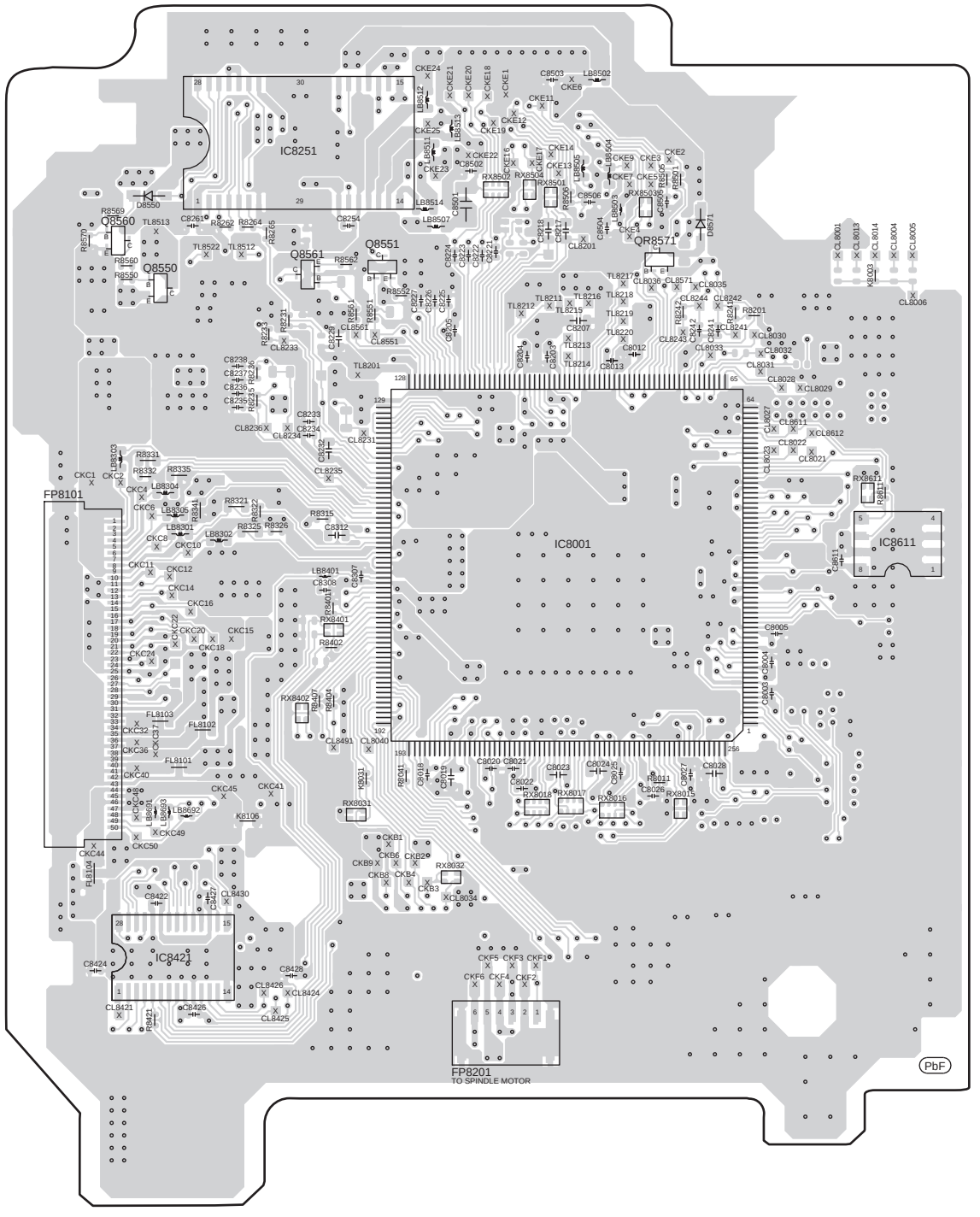


A DVD MODULE P.C.B (REP3867D)



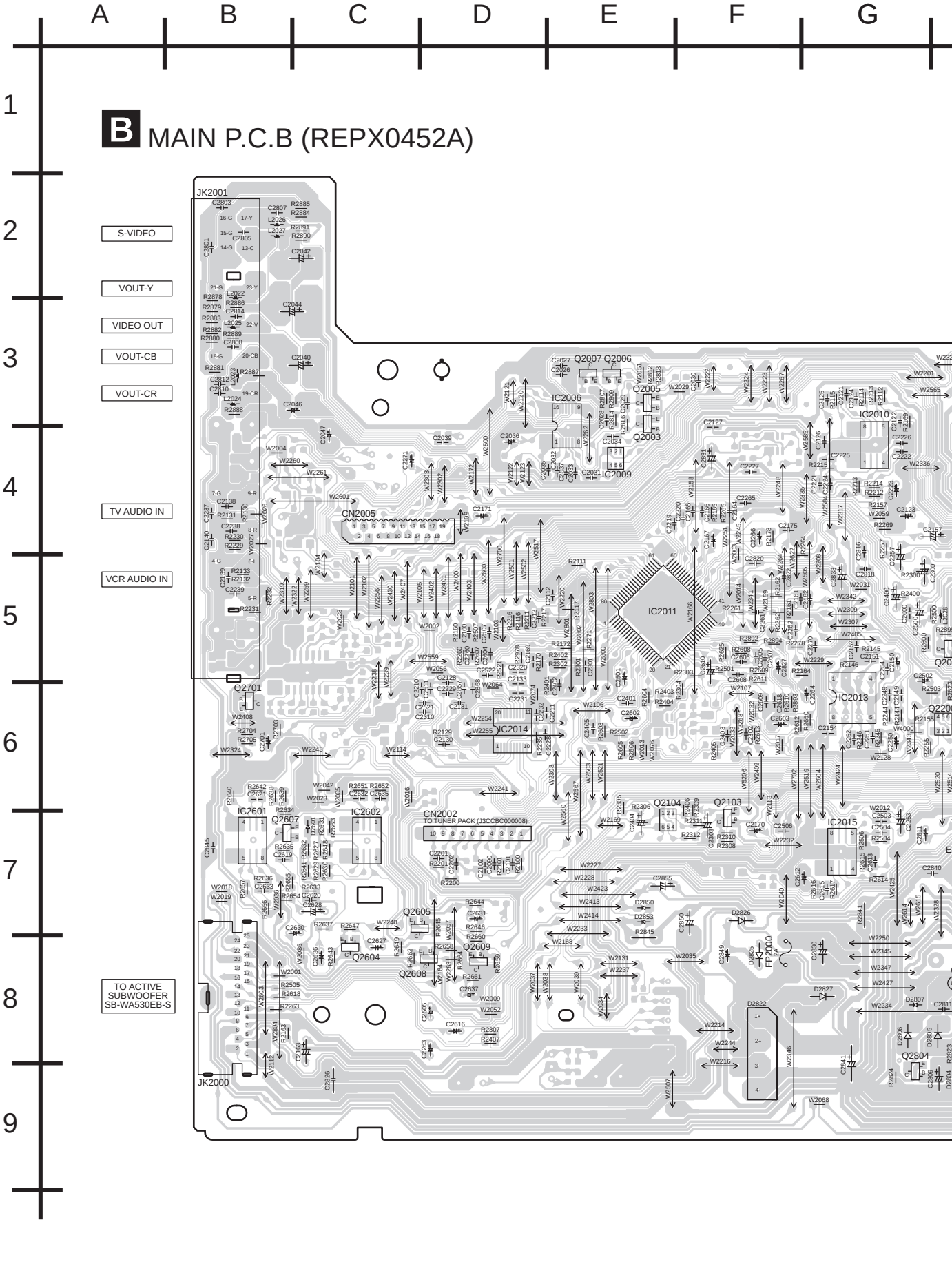
(SIDE A)

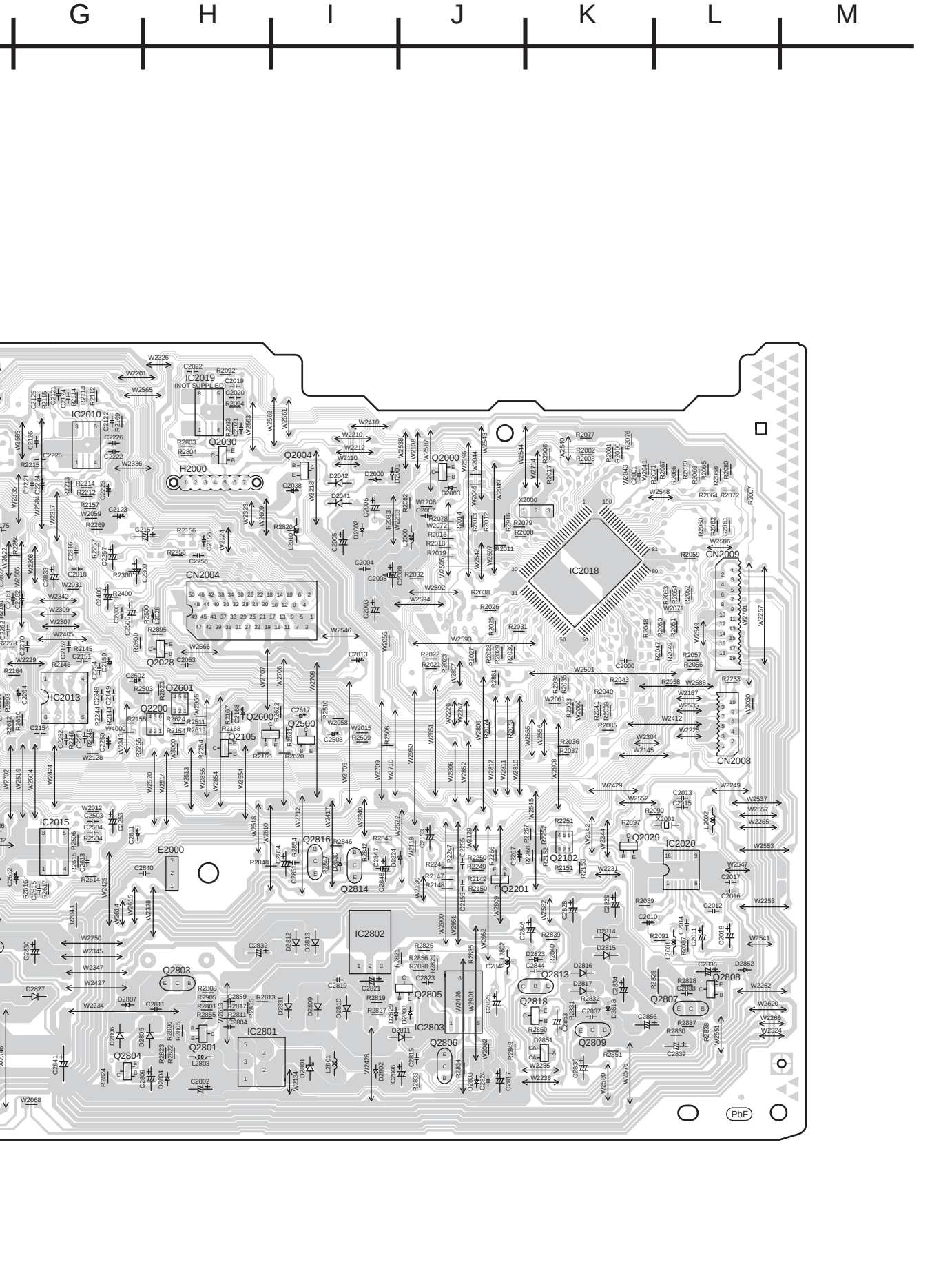
A DVD MODULE P.C.B (REP3867D)



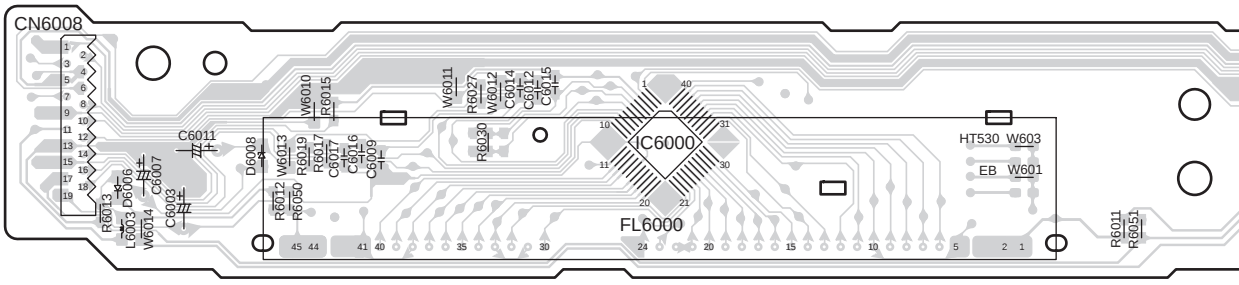
(SIDE B)

B MAIN P.C.B (REPX0452A)

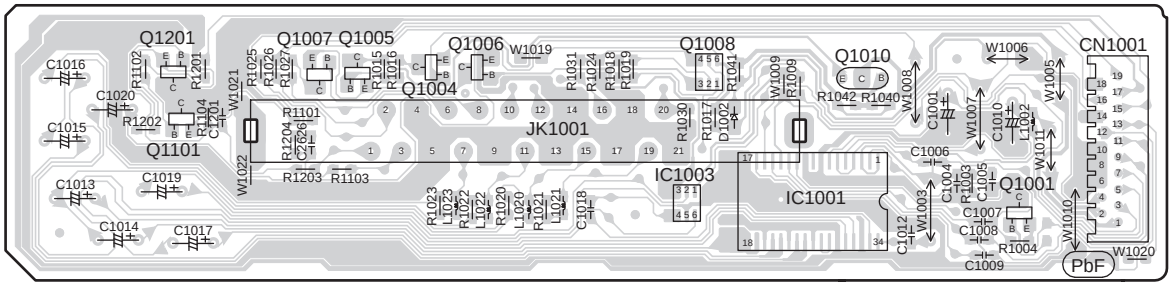



G
H
I
J
K
L
M
IC2019
(NOT SUPPLIED)
IC2010
Q2030
H2000
Q2004
Q2000
X2000
IC2018
CN2009
CN2004
Q2028
Q2601
IC2013
Q2200
Q2600
Q2500
Q2105
CN2008
IC2015
E2000
Q2816
Q2814
Q2029
IC2020
Q2102
Q2201
IC2802
Q2803
Q2805
Q2813
Q2818
Q2808
Q2807
IC2803
Q2806
Q2809
IC2801
Q2801
Q2804
PbF

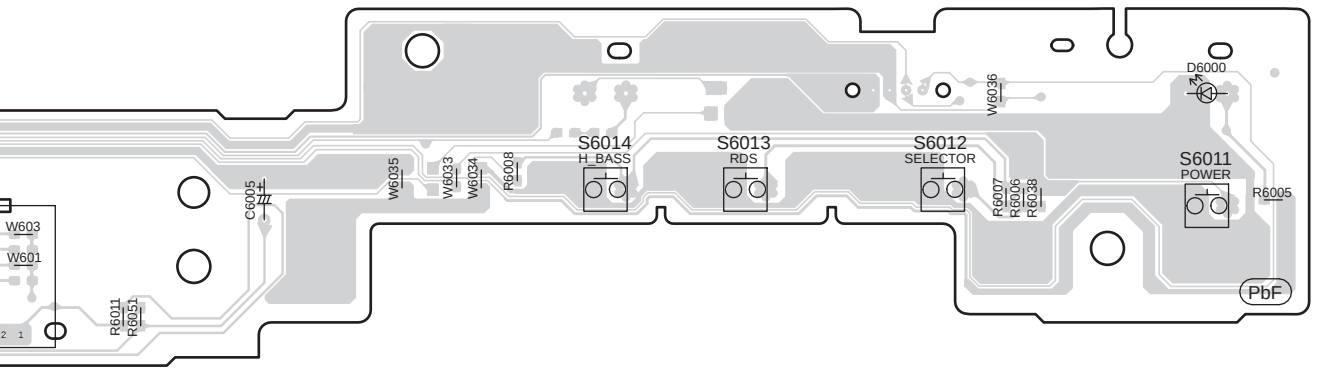
C PANEL P.C.B (REPX0456A)



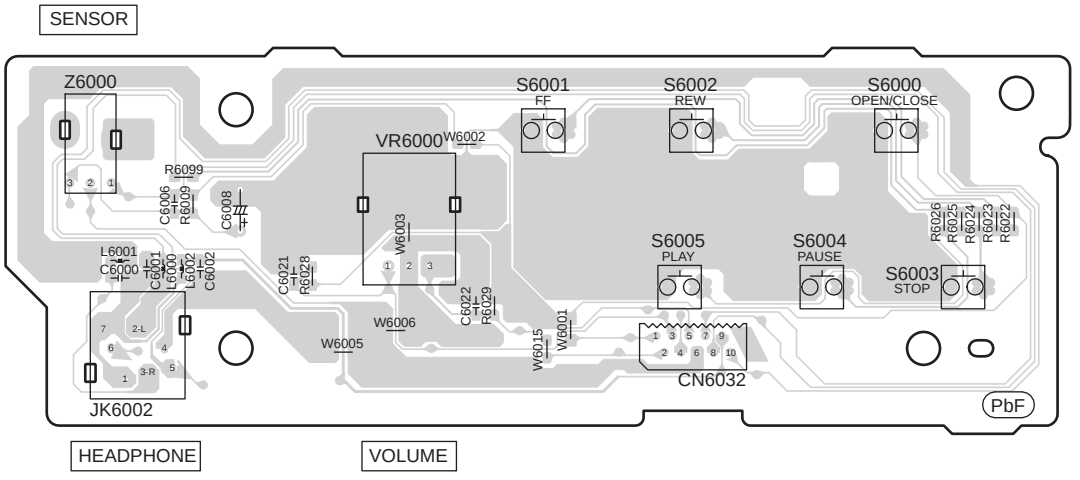
D SCART P.C.B (REPX0452A)



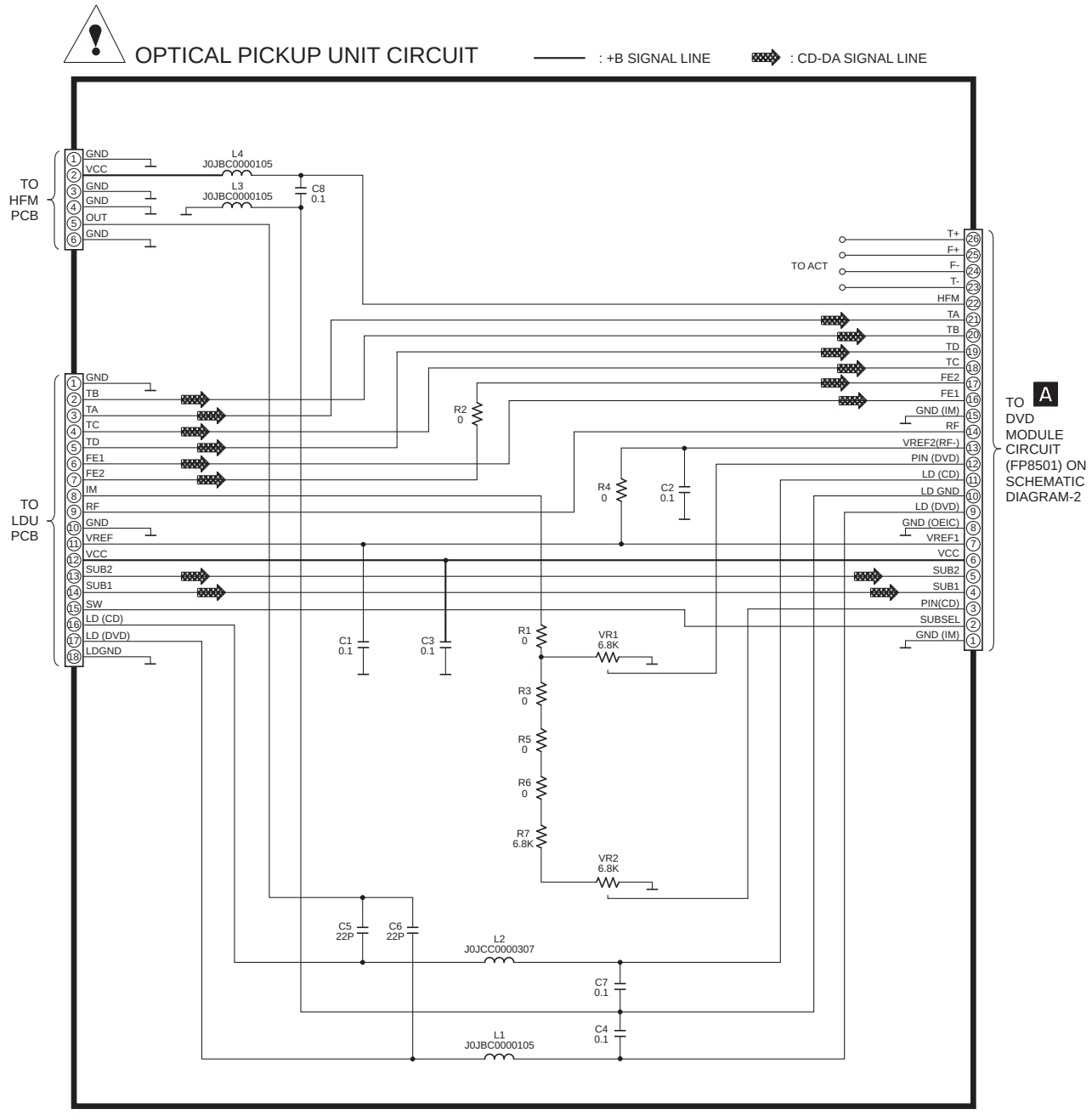
AV OUT



E HEADPHONE P.C.B (REPX0456A)



SCHEMATIC DIAGRAM - 1

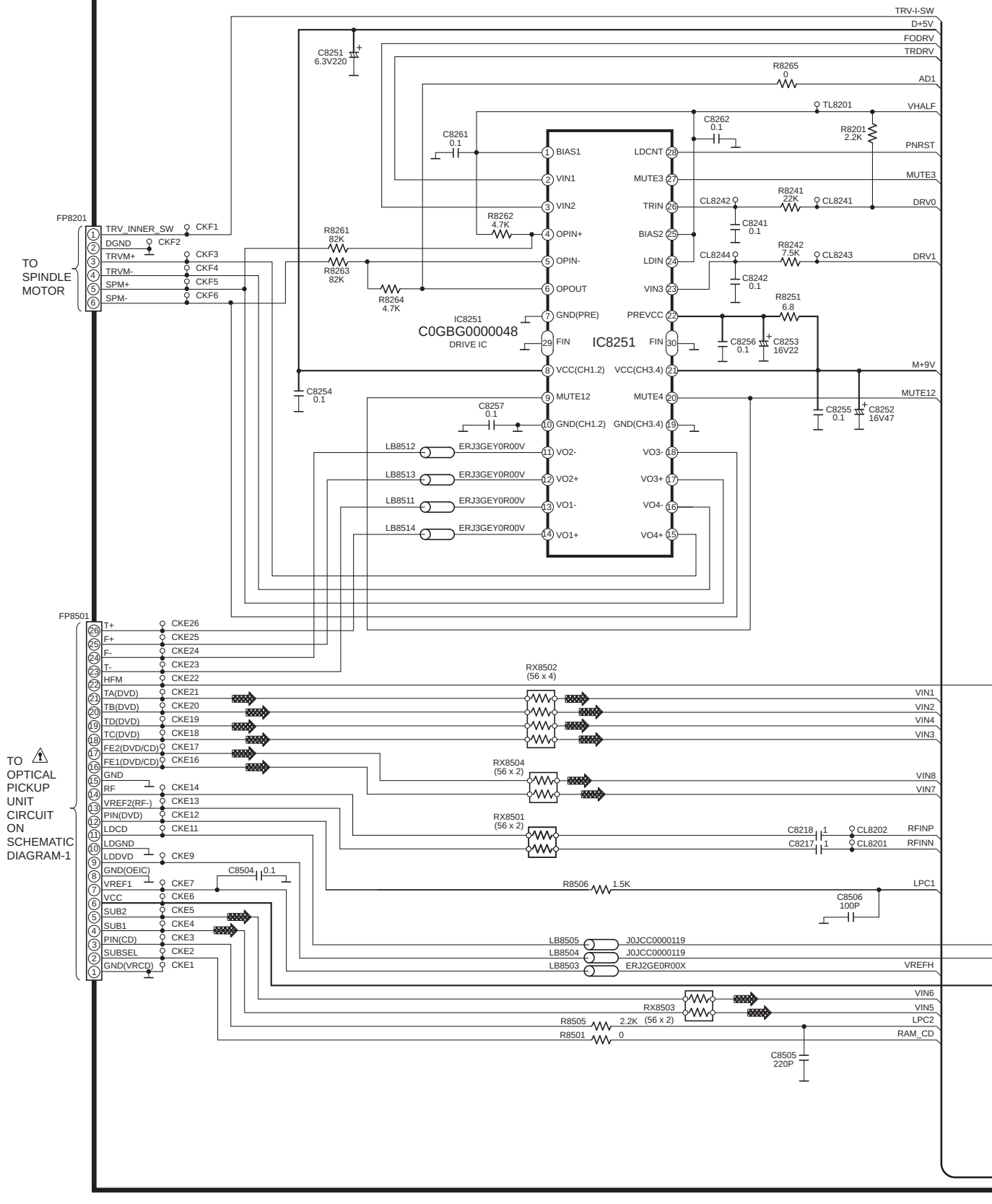


SCHEMATIC DIAGRAM - 2

A

DVD MODULE CIRCUIT

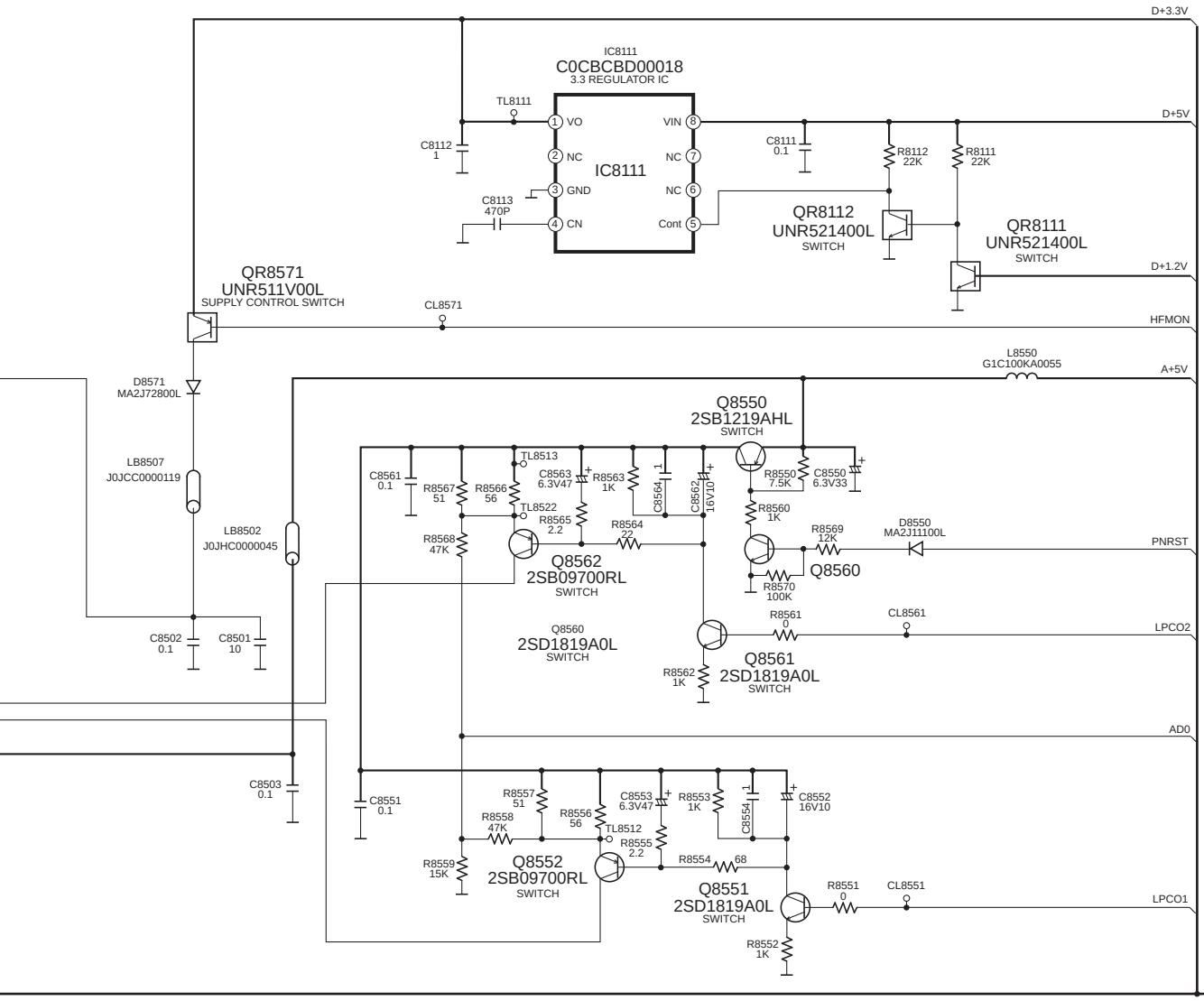
: +B SIGNAL LINE : CD-DA SIGNAL LINE



A

DVD MODULE CIRCUIT

——— : +B SIGNAL LINE

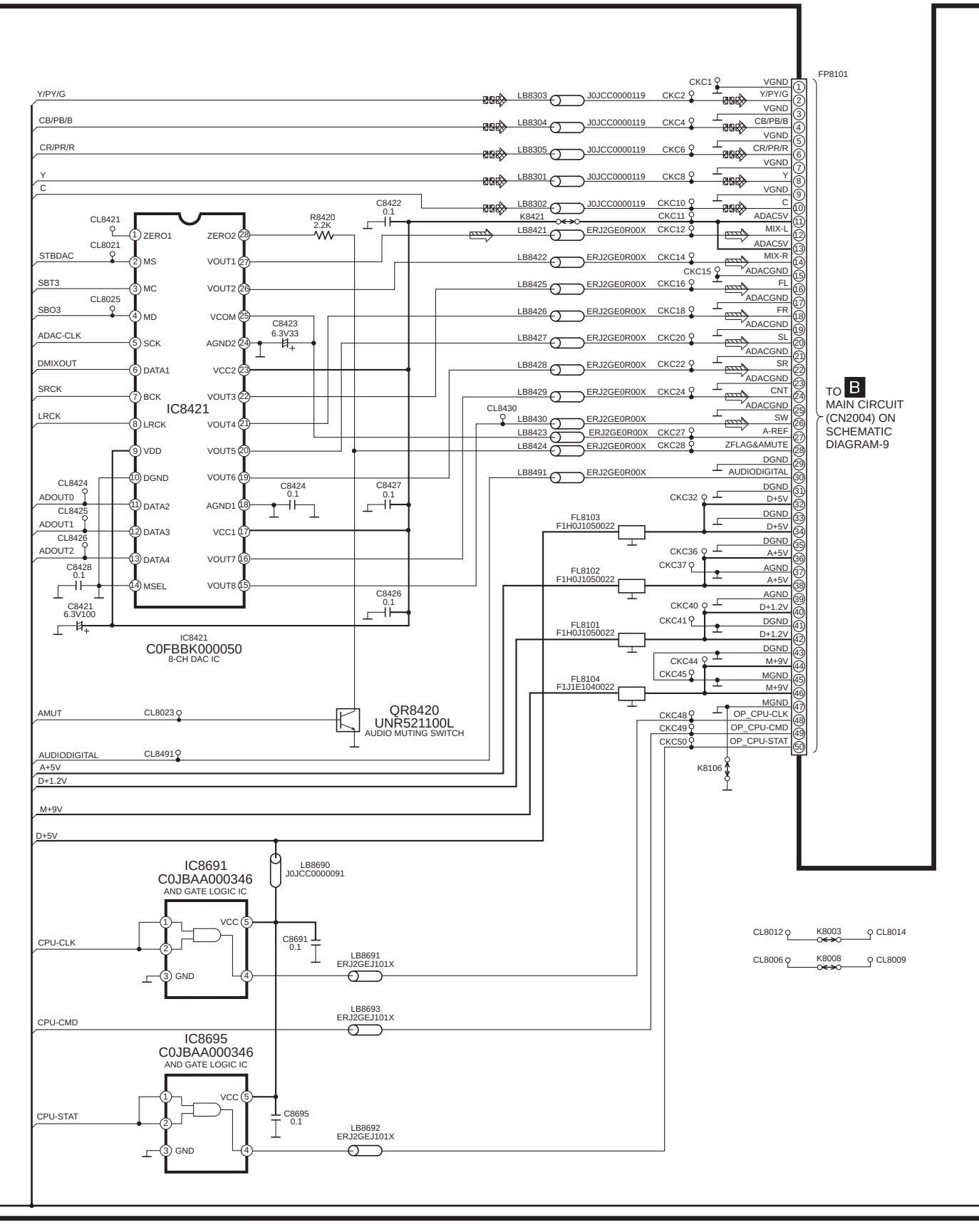


SCHEMATIC DIAGRAM - 4

A

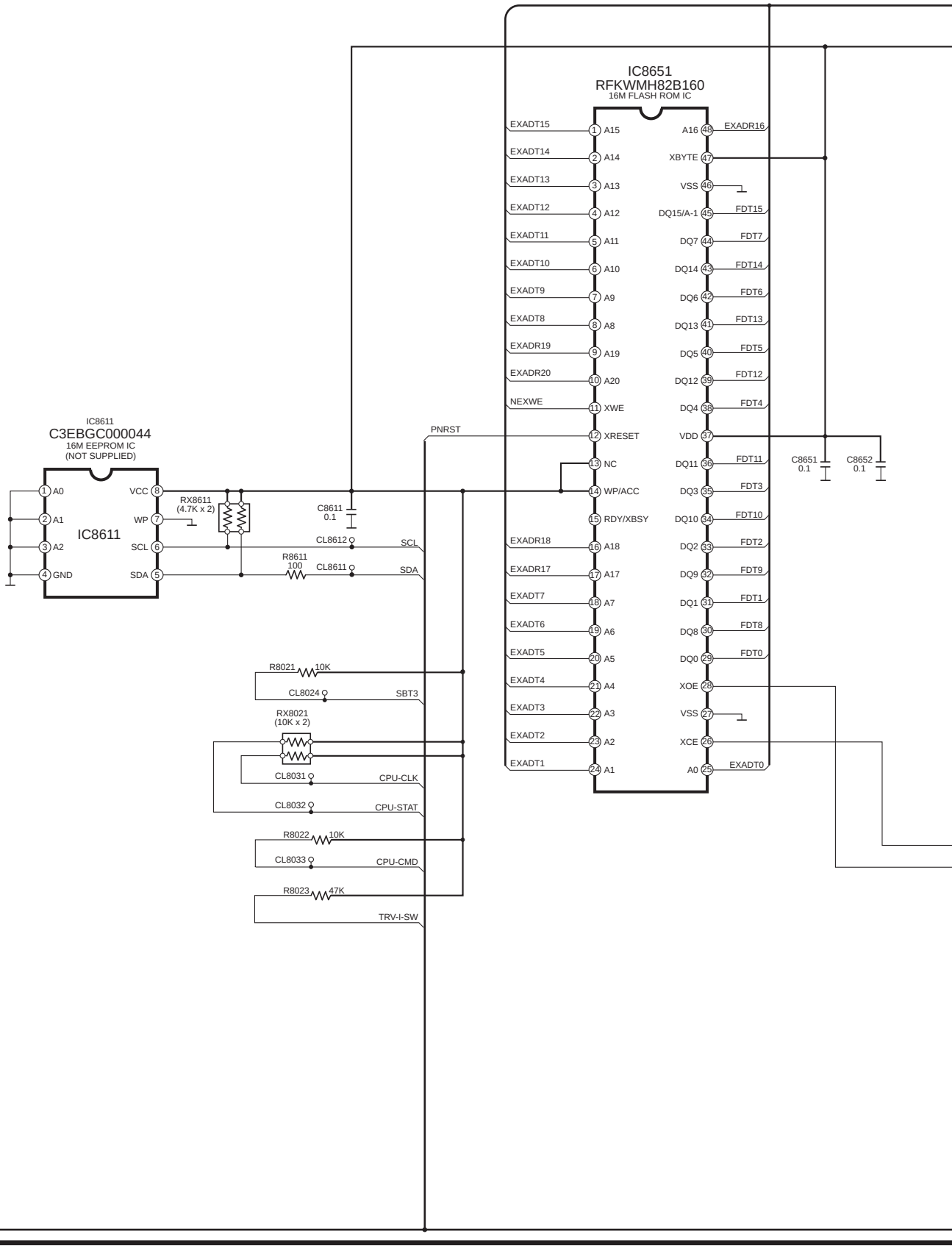
DVD MODULE CIRCUIT

: MAIN SIGNAL LINE
: +B SIGNAL LINE
: DVD VIDEO SIGNAL LINE



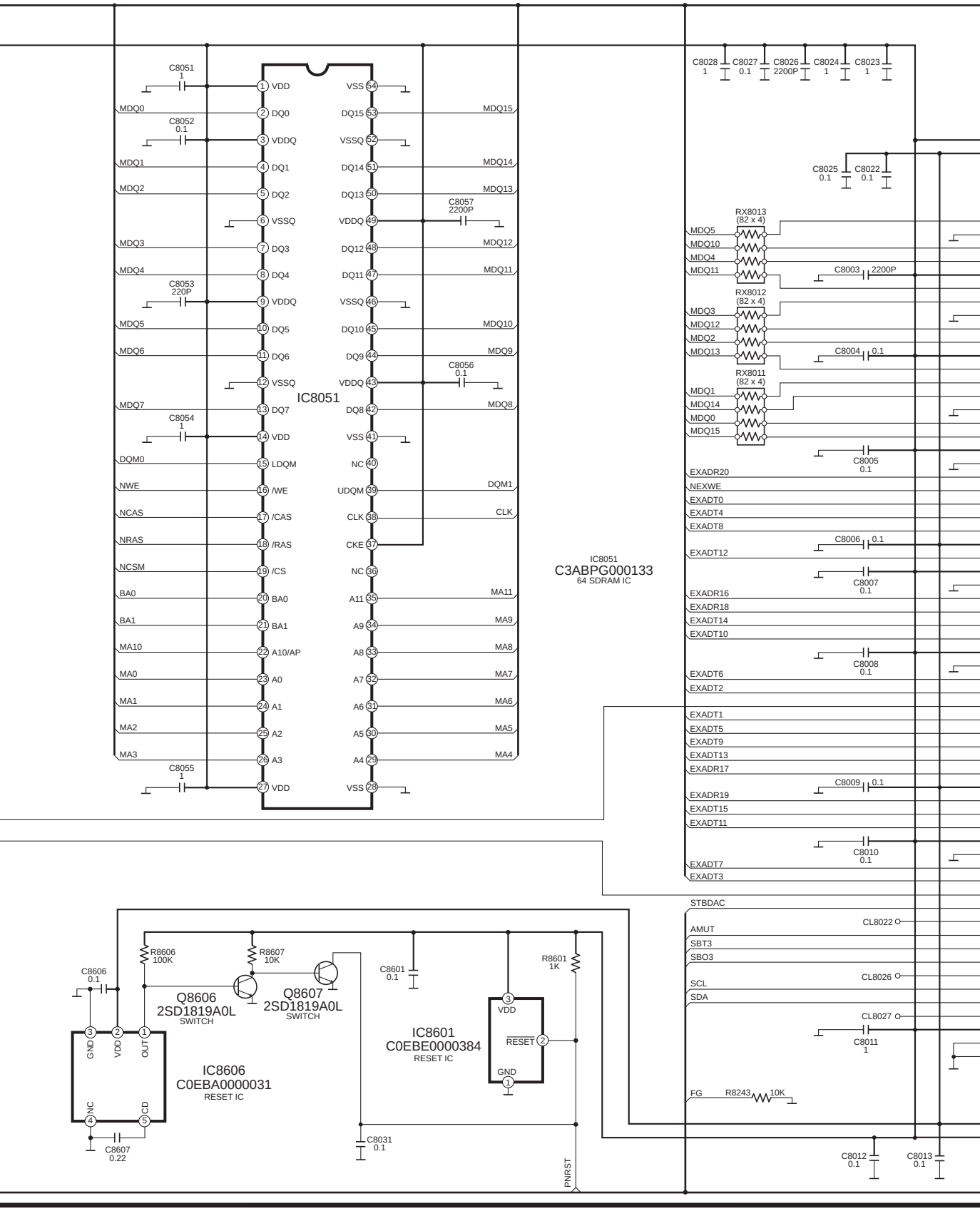
A DVD MODULE CIRCUIT

——— : +B SIGNAL LINE



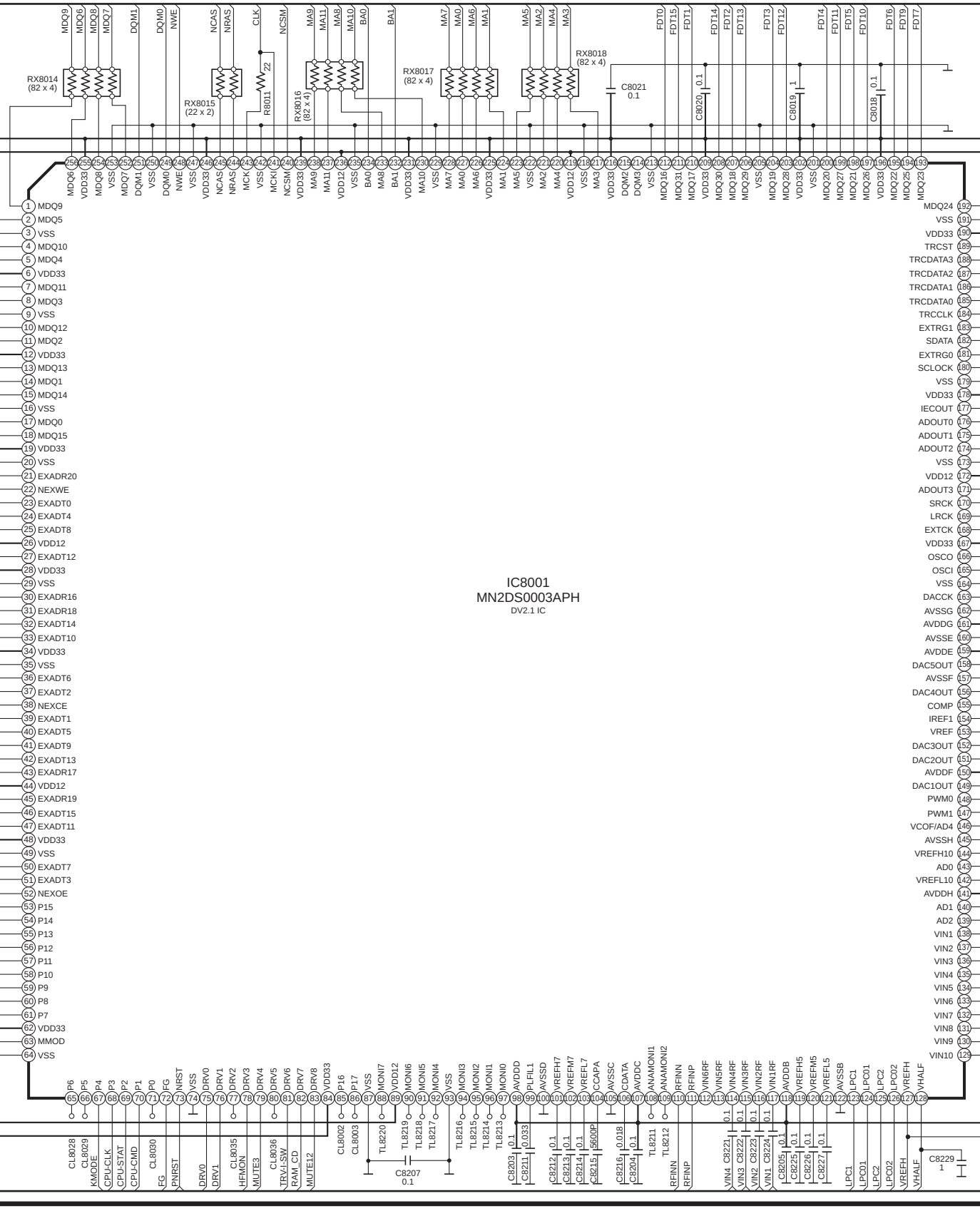
A DVD MODULE CIRCUIT

: +B SIGNAL LINE



A DVD MODULE CIRCUIT

: +B SIGNAL LINE

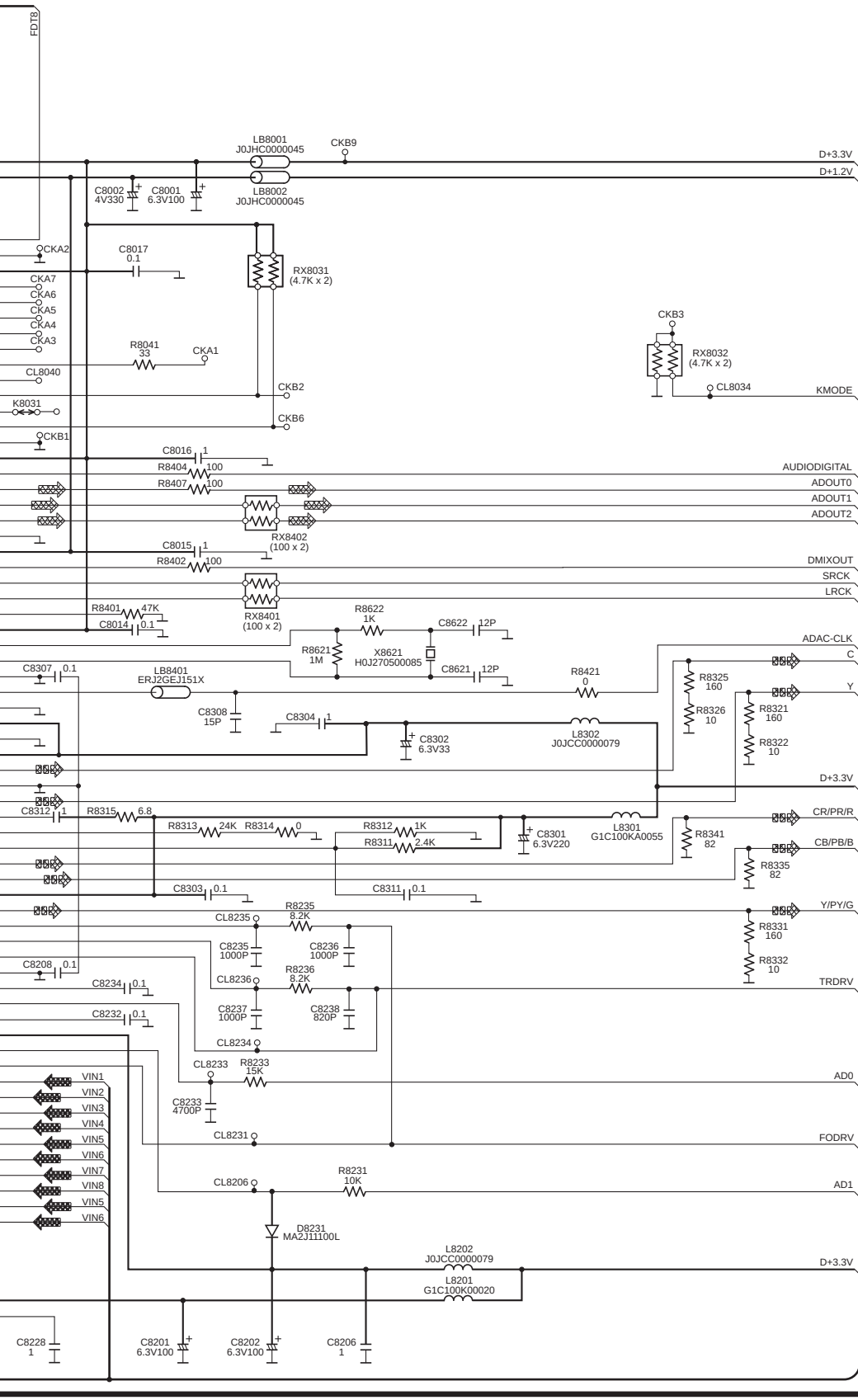


SCHEMATIC DIAGRAM - 8

A

DVD MODULE CIRCUIT

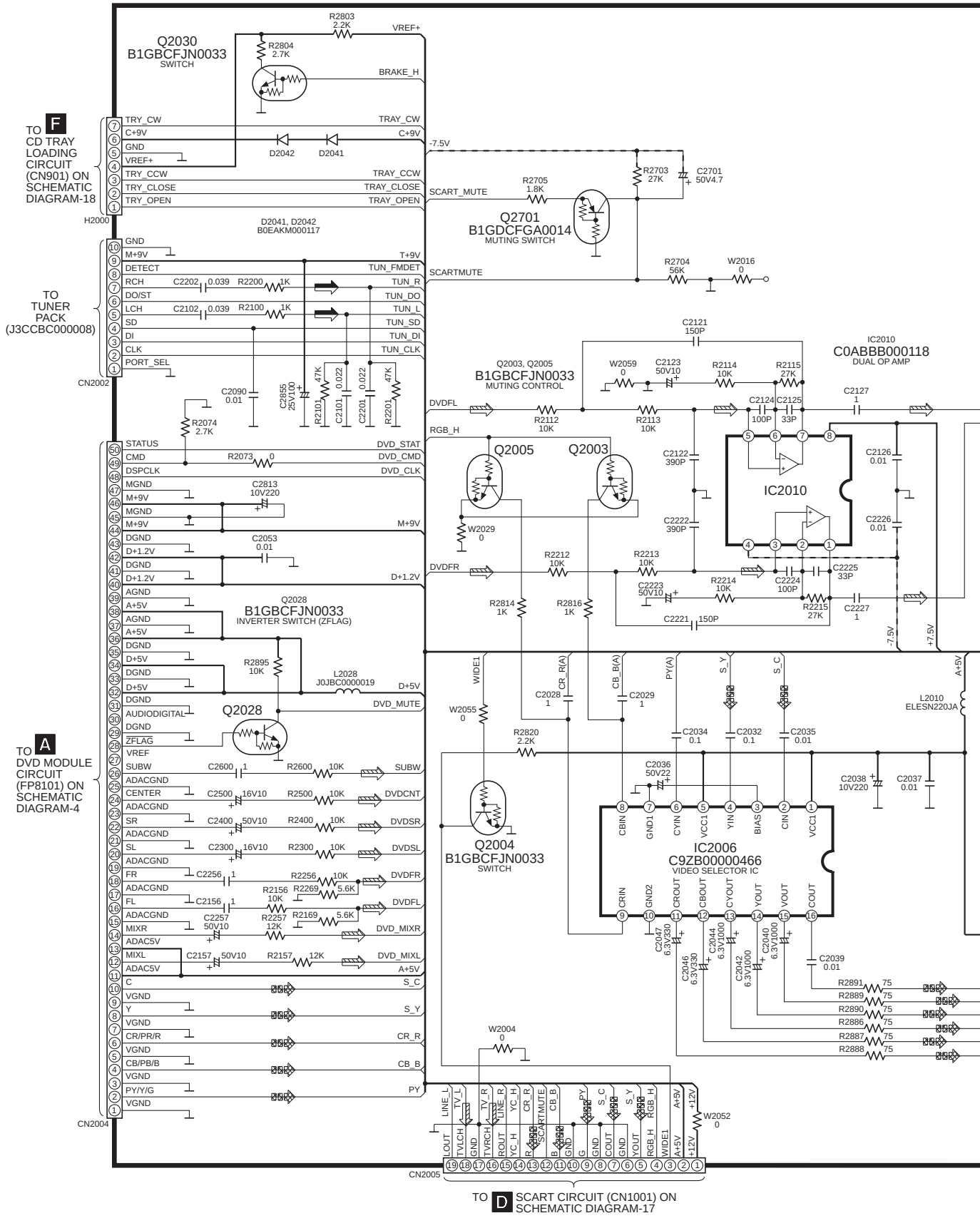
: CD-DA SIGNAL LINE
: +B SIGNAL LINE
: DVD VIDEO SIGNAL LINE
: DVD AUDIO SIGNAL LINE



SCHEMATIC DIAGRAM - 9

B MAIN CIRCUIT

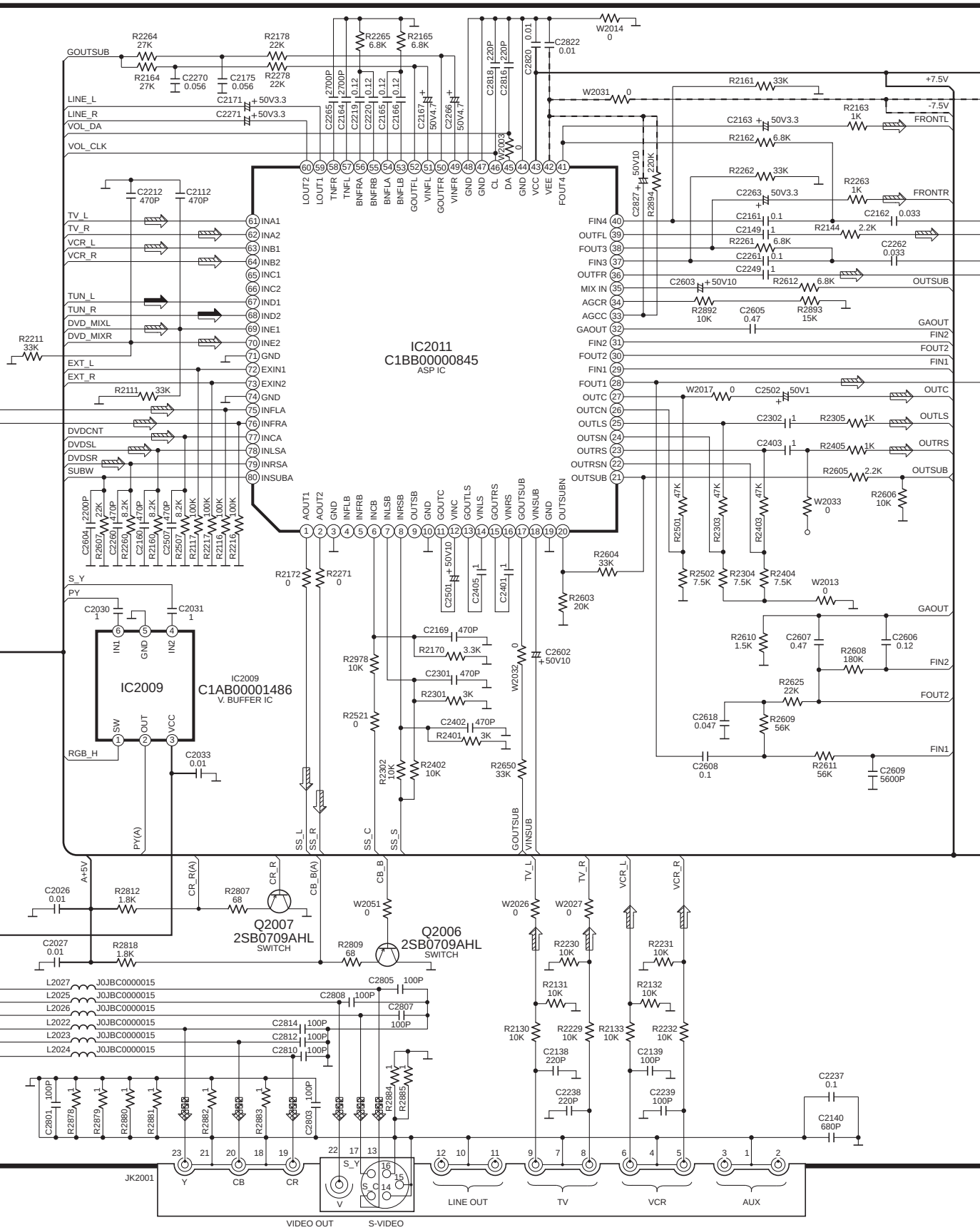
: +B SIGNAL LINE
: -B SIGNAL LINE
: MAIN SIGNAL LINE
: FM/AM SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 10

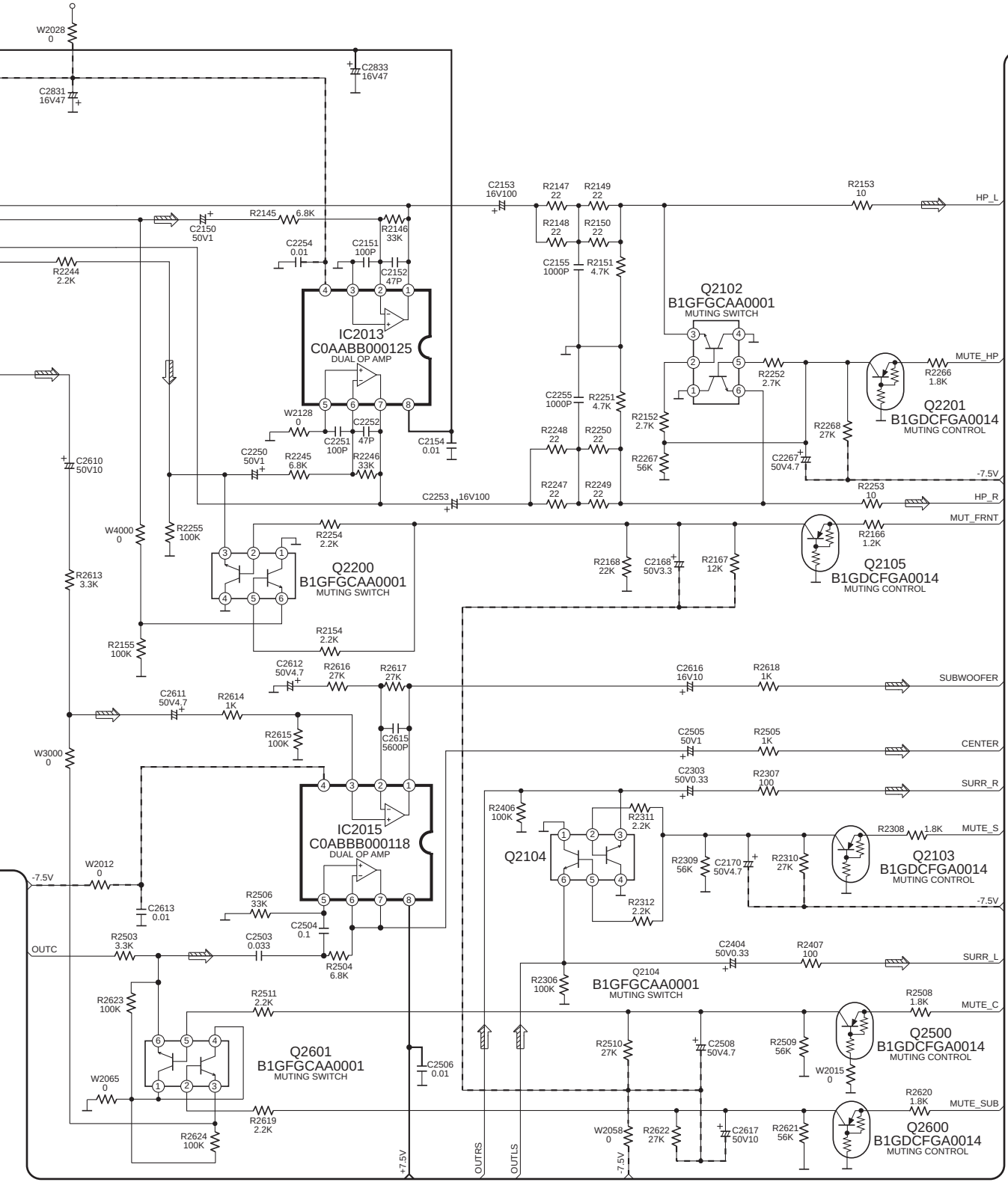
B MAIN CIRCUIT

: +B SIGNAL LINE
: -B SIGNAL LINE
: MAIN SIGNAL LINE
: FM/AM SIGNAL LINE
: VIDEO SIGNAL LINE



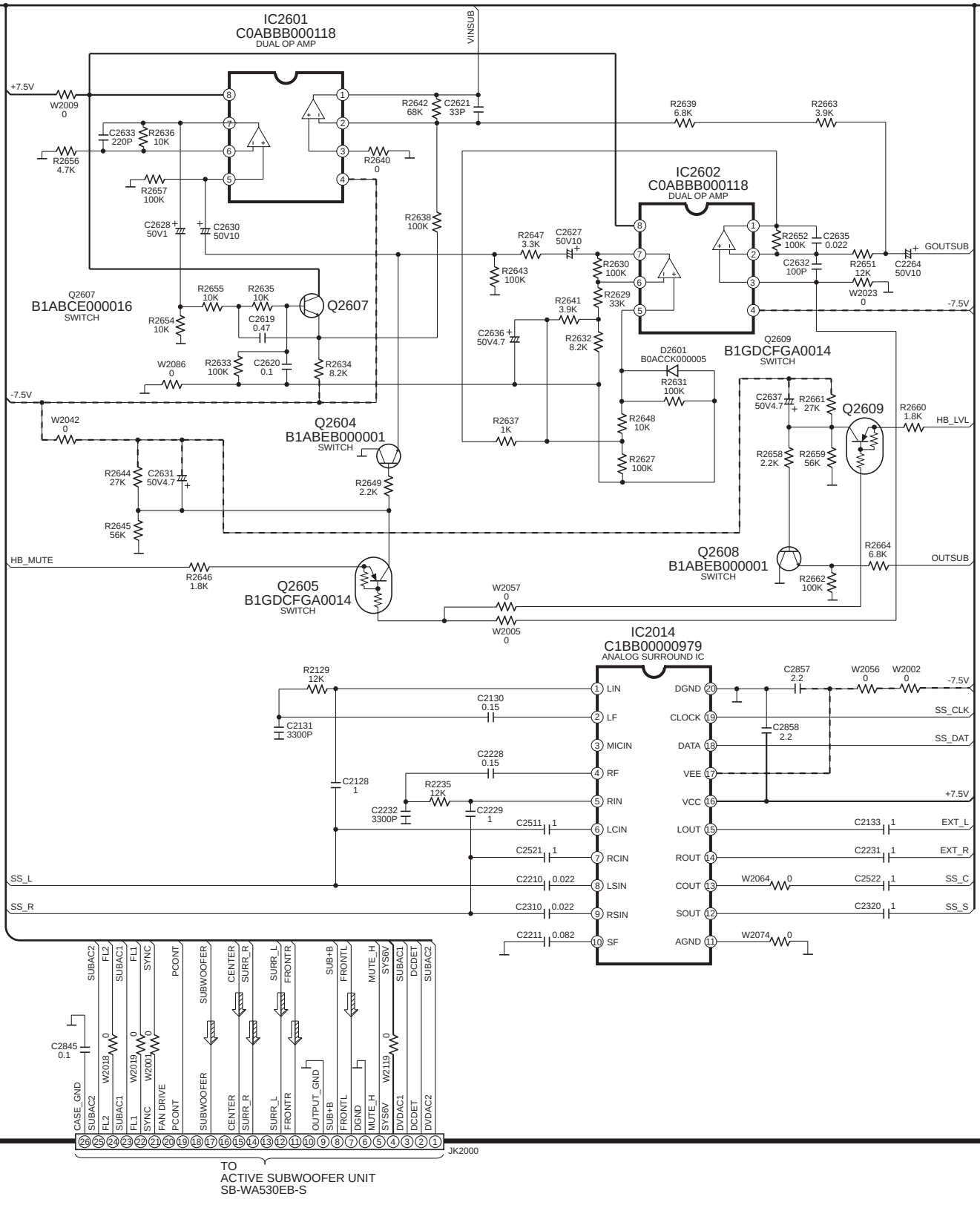
B MAIN CIRCUIT

: +B SIGNAL LINE
: -B SIGNAL LINE
: MAIN SIGNAL LINE



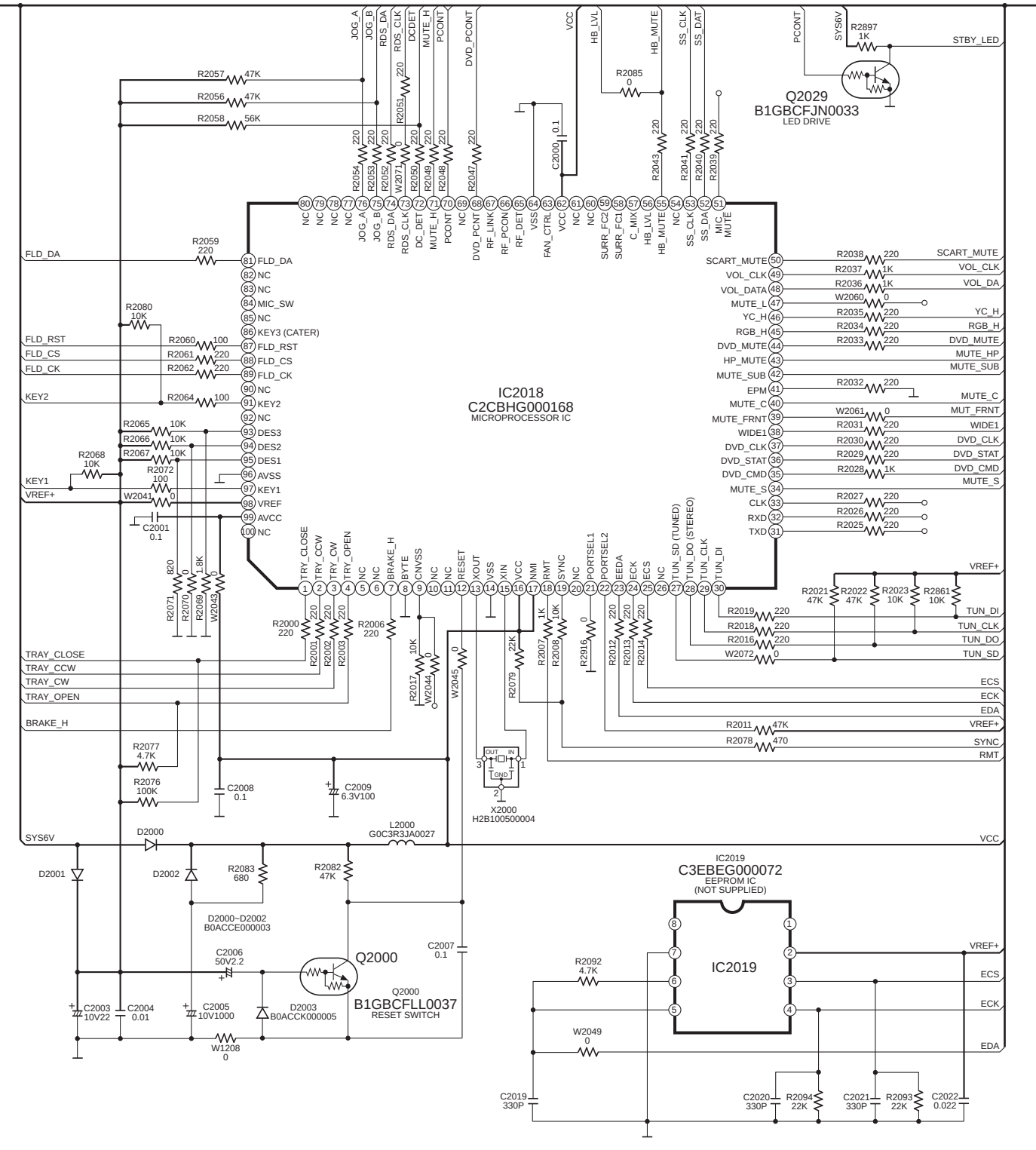
B MAIN CIRCUIT

: +B SIGNAL LINE
: -B SIGNAL LINE
: MAIN SIGNAL LINE



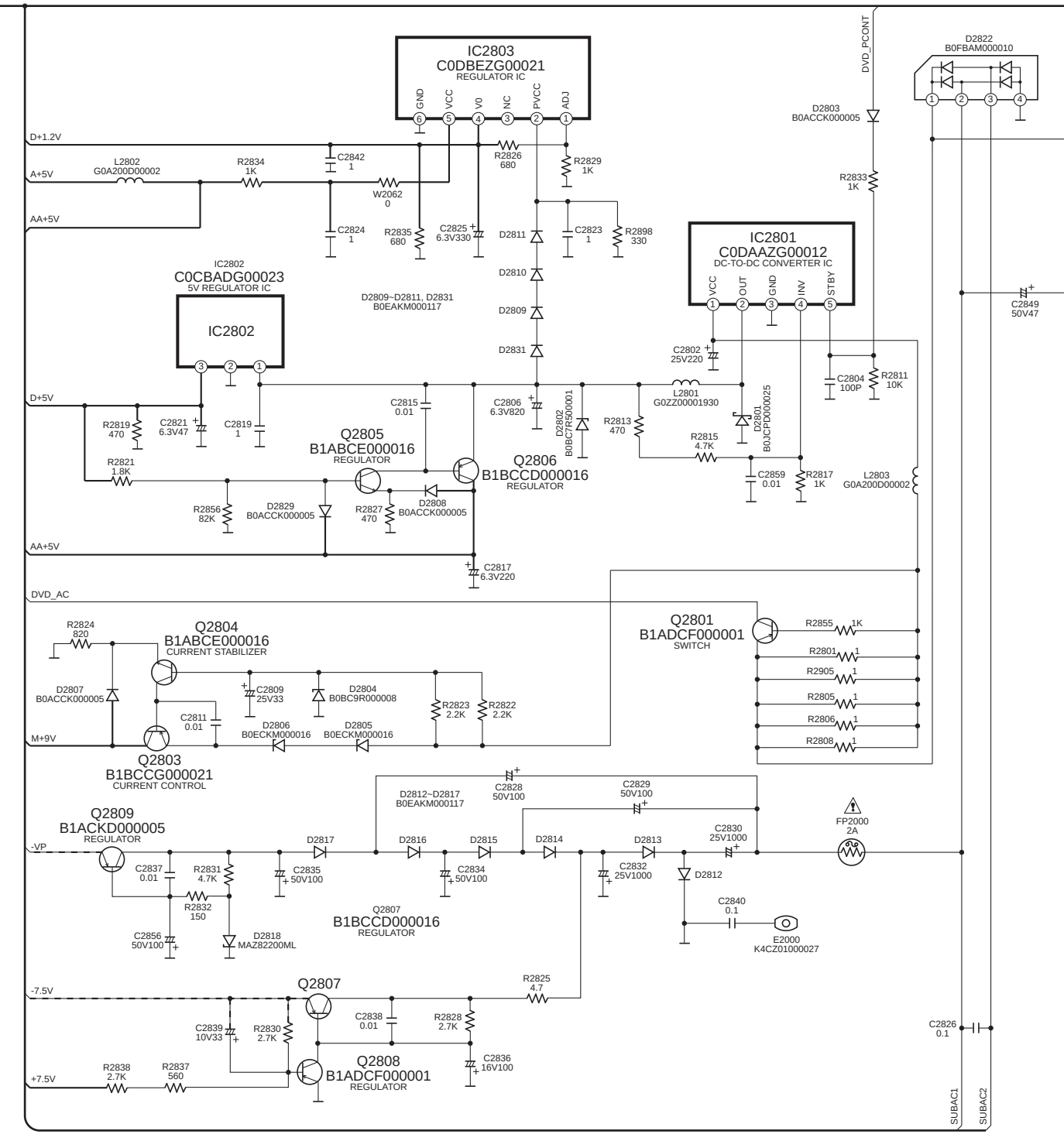
B MAIN CIRCUIT

——— : +B SIGNAL LINE



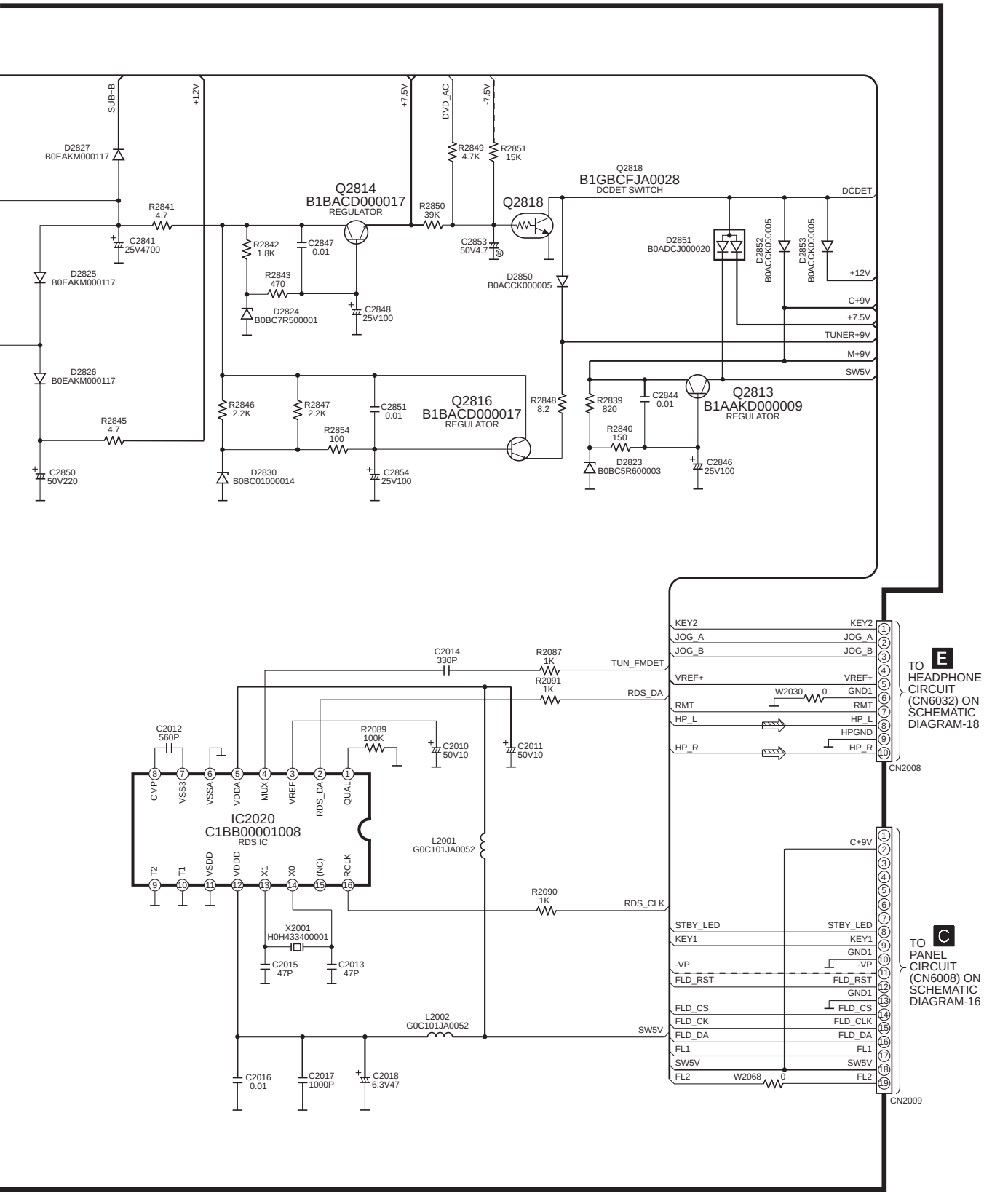
B MAIN CIRCUIT

——— : +B SIGNAL LINE
– – – – : -B SIGNAL LINE



B MAIN CIRCUIT

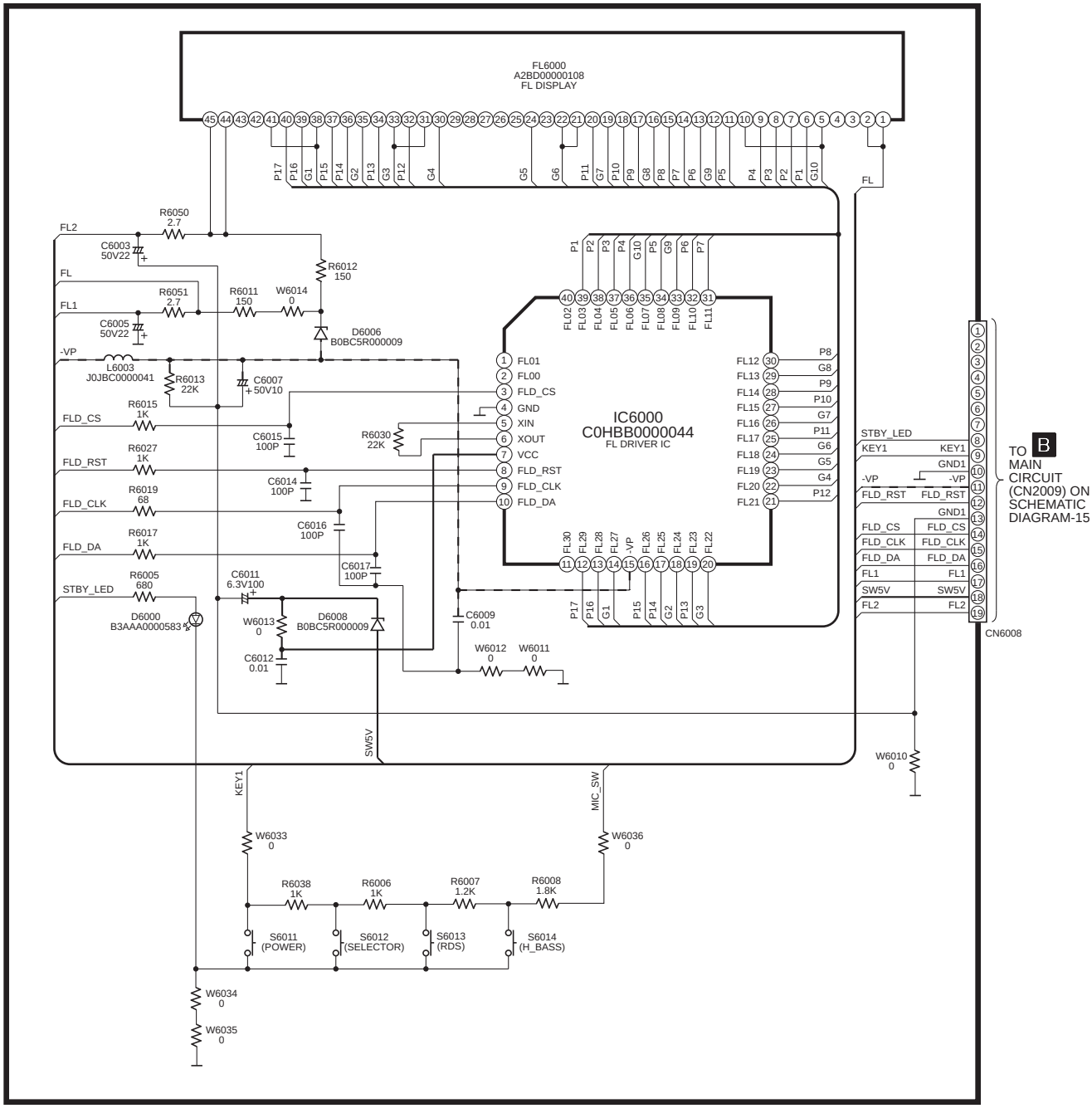
: +B SIGNAL LINE
: -B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 16

C PANEL CIRCUIT

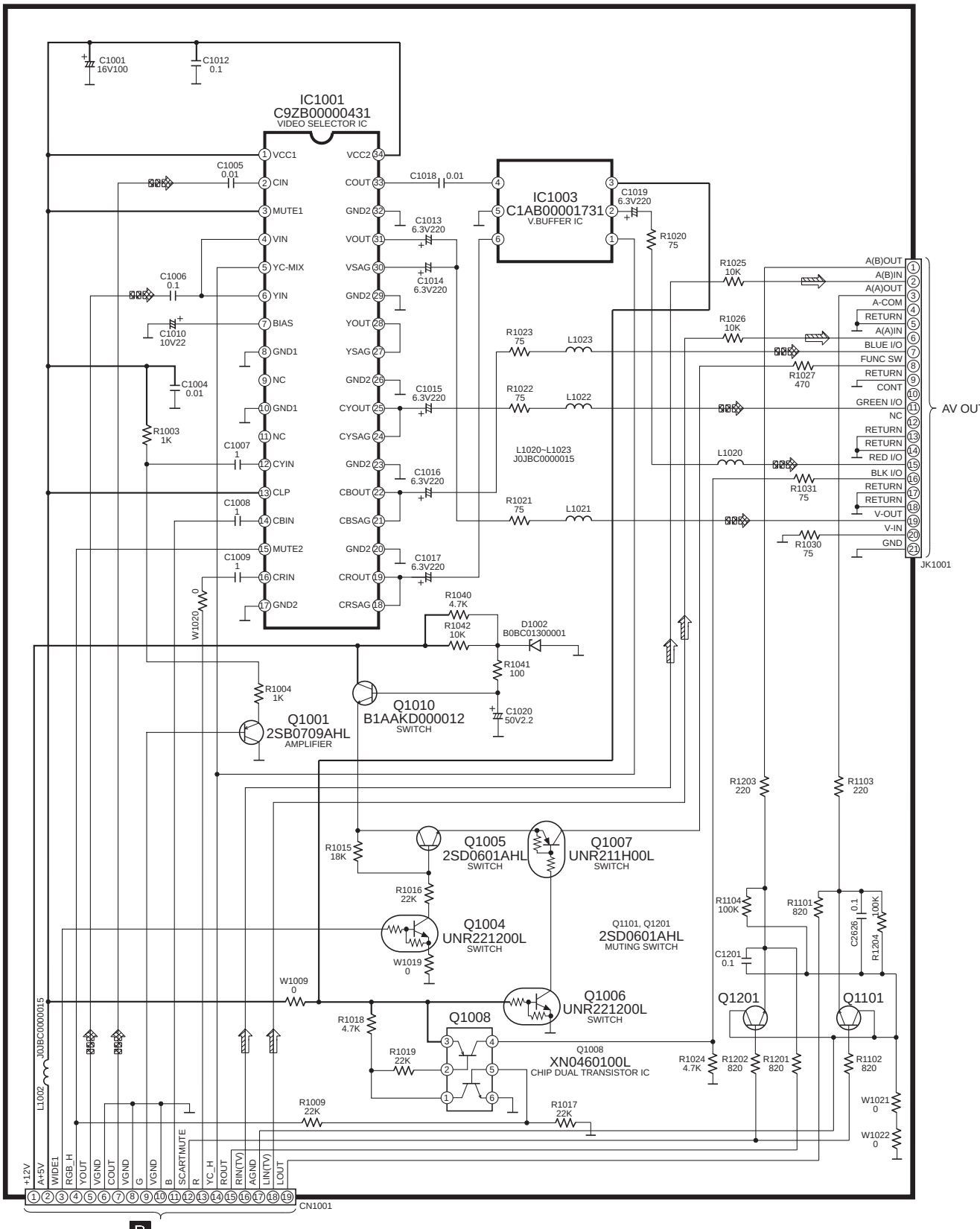
– – – : -B SIGNAL LINE
——— : +B SIGNAL LINE



SCHEMATIC DIAGRAM - 17

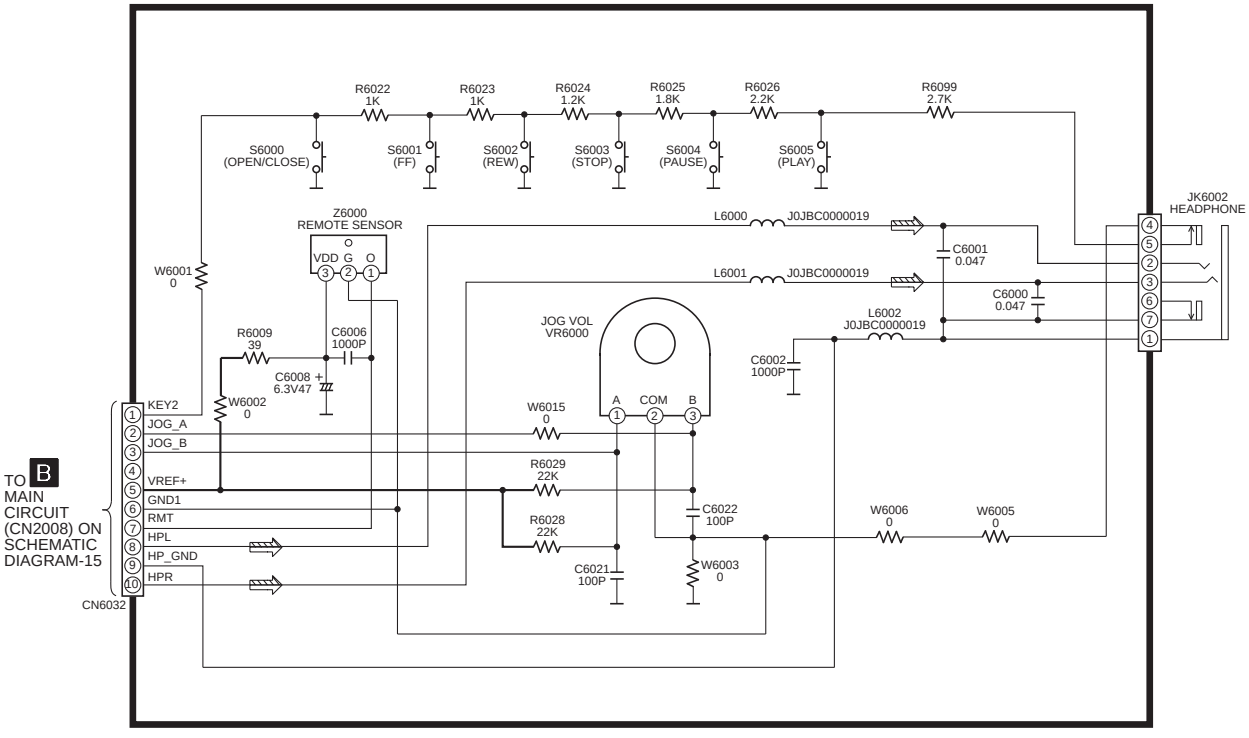
D SCART CIRCUIT

: +B SIGNAL LINE : VIDEO SIGNAL LINE : MAIN SIGNAL LINE

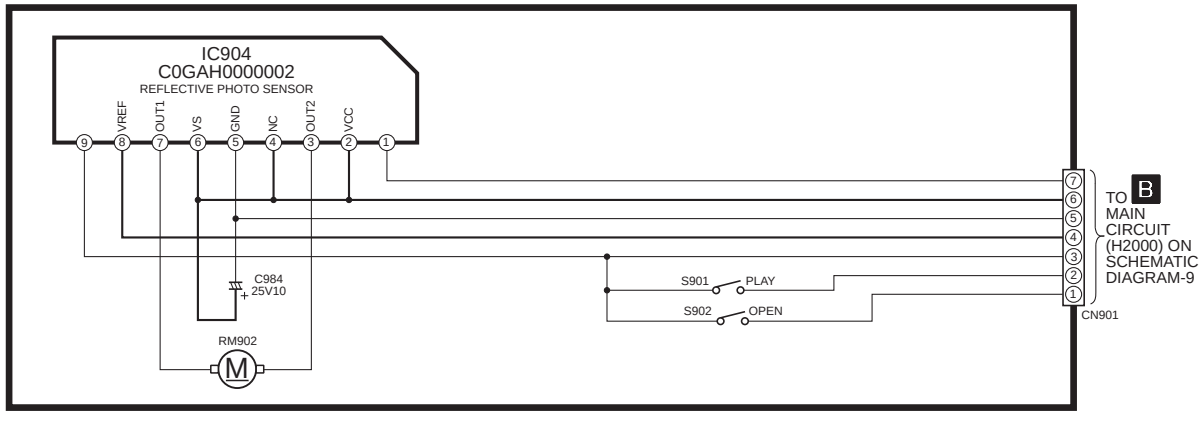


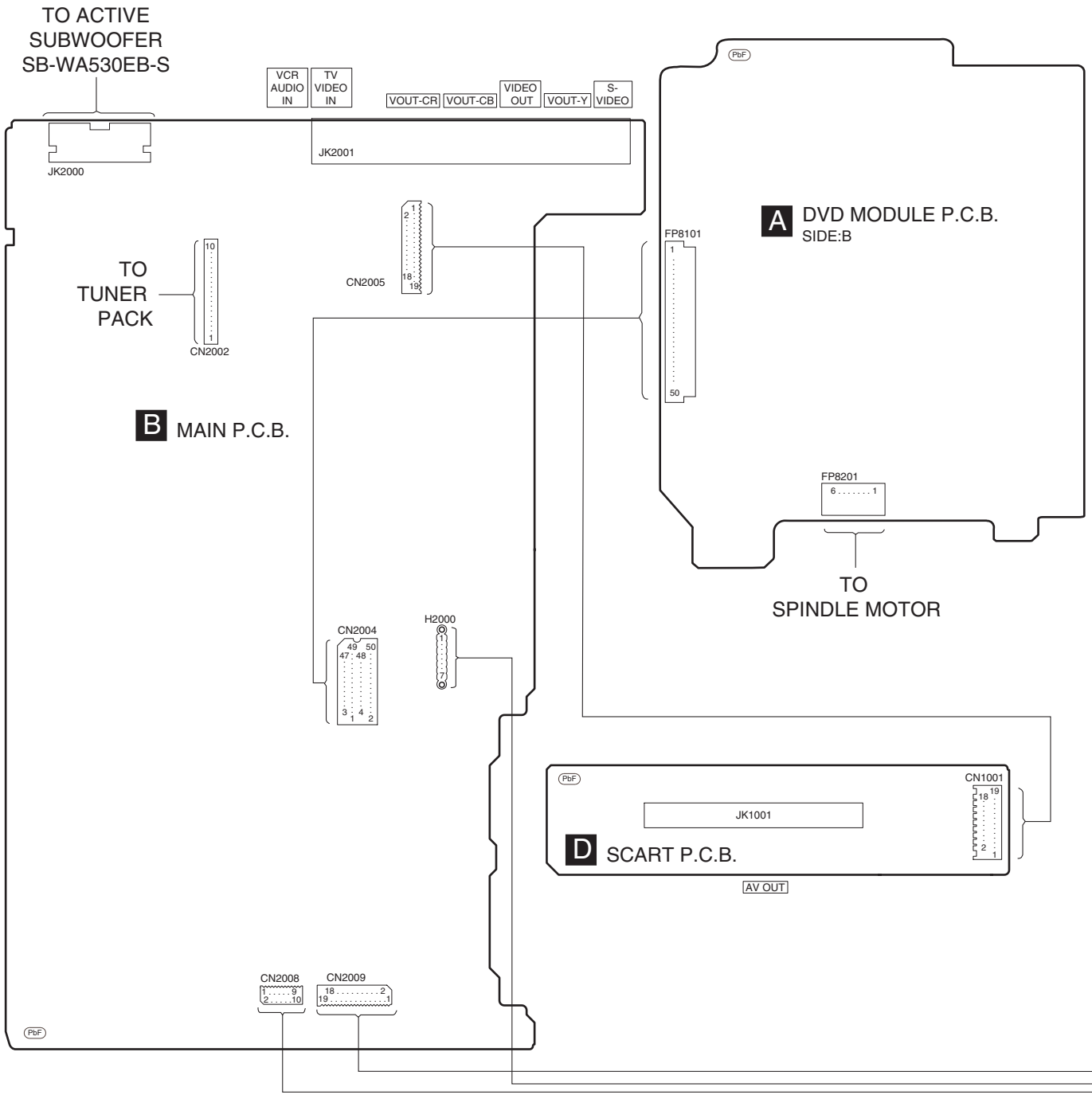
E HEADPHONE CIRCUIT

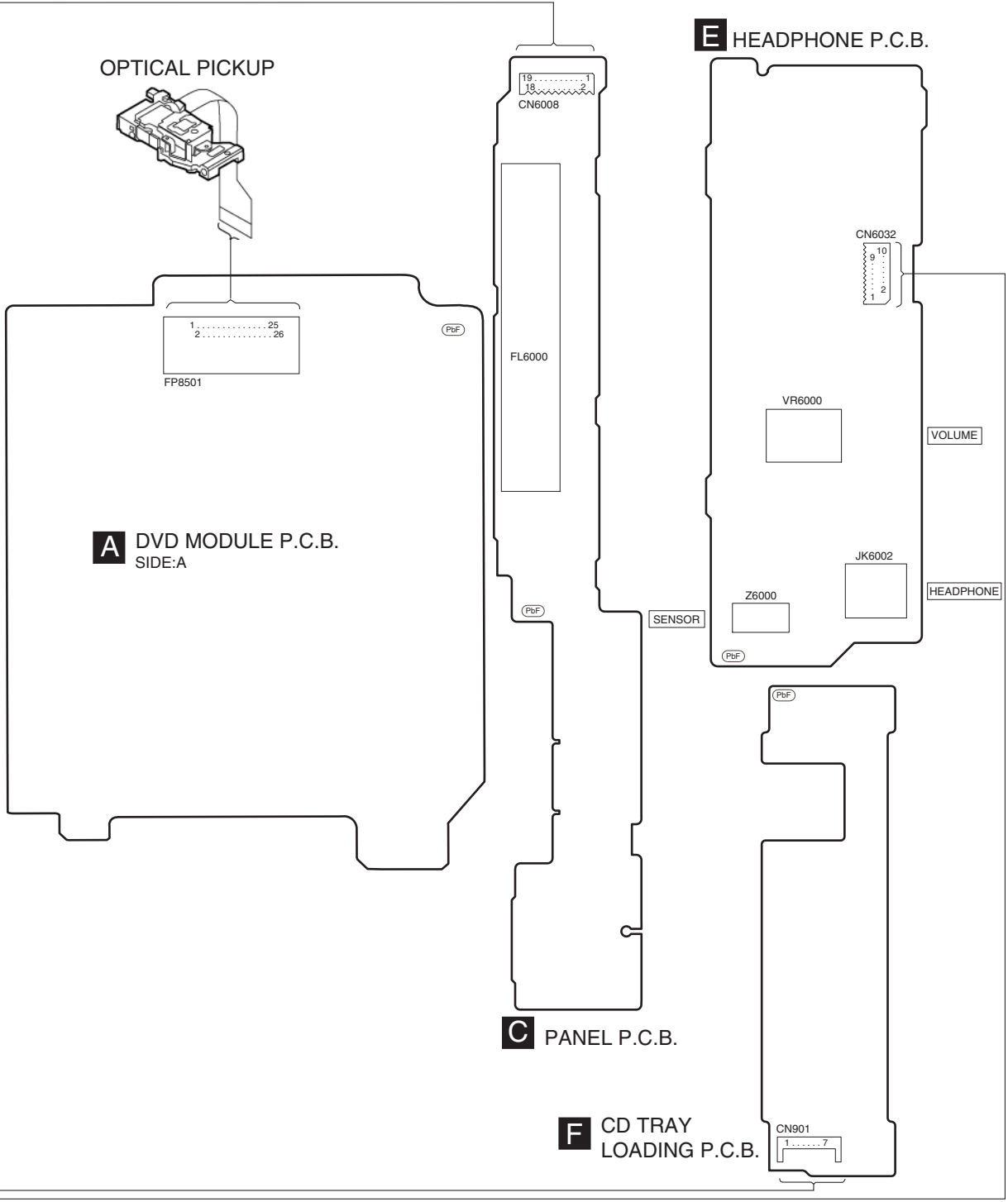
: MAIN SIGNAL LINE : +B SIGNAL LINE

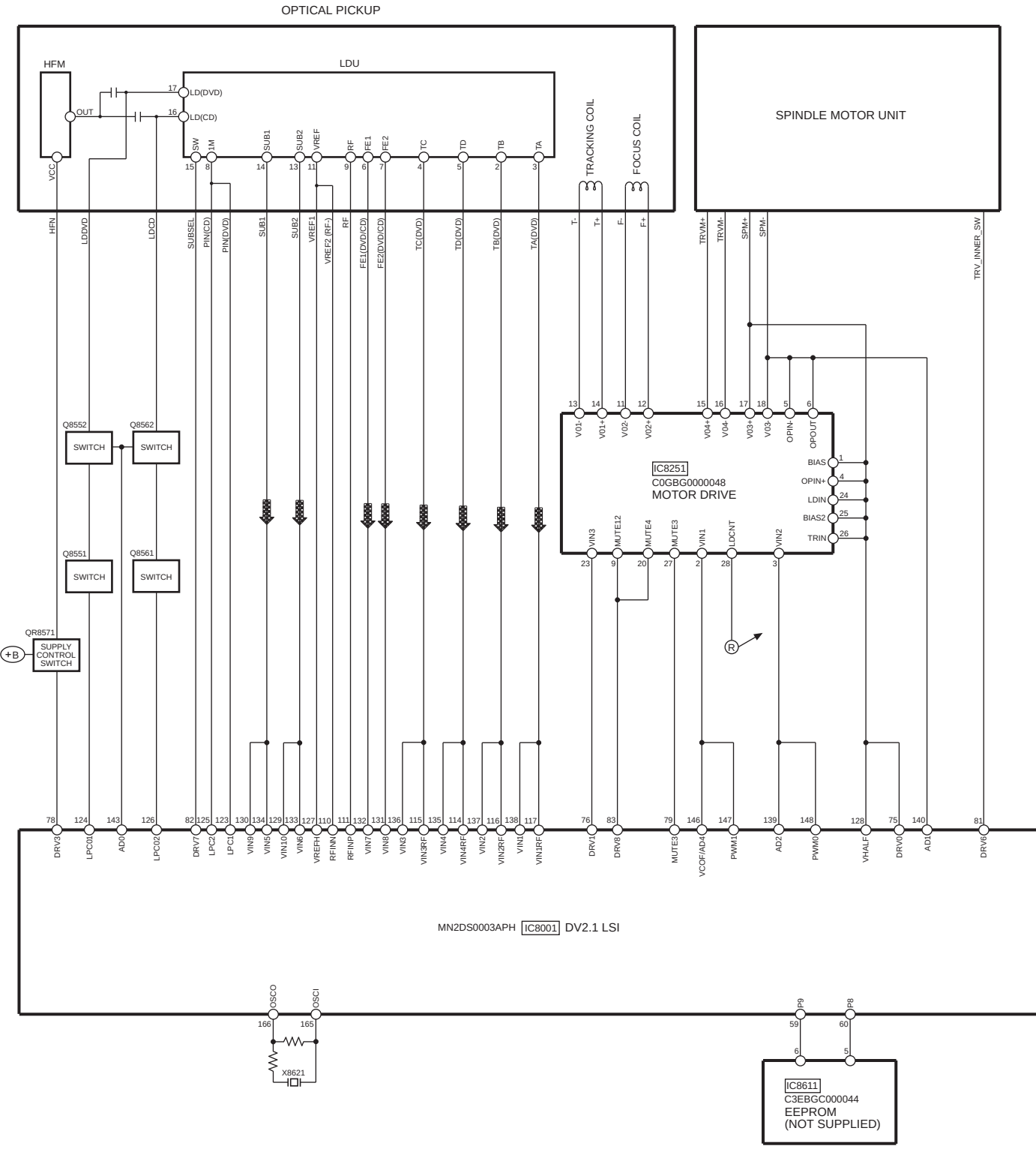


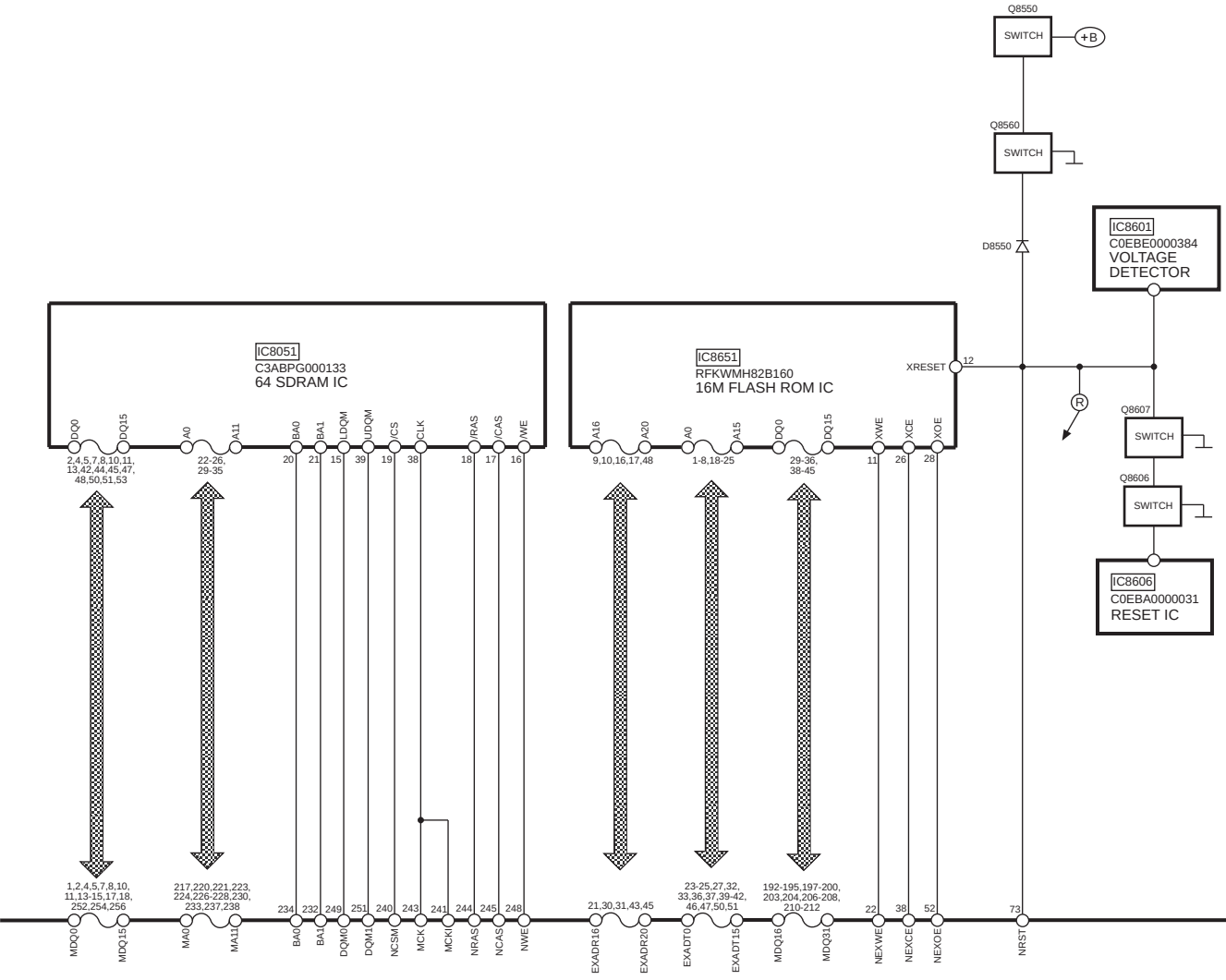
F CD TRAY LOADING CIRCUIT



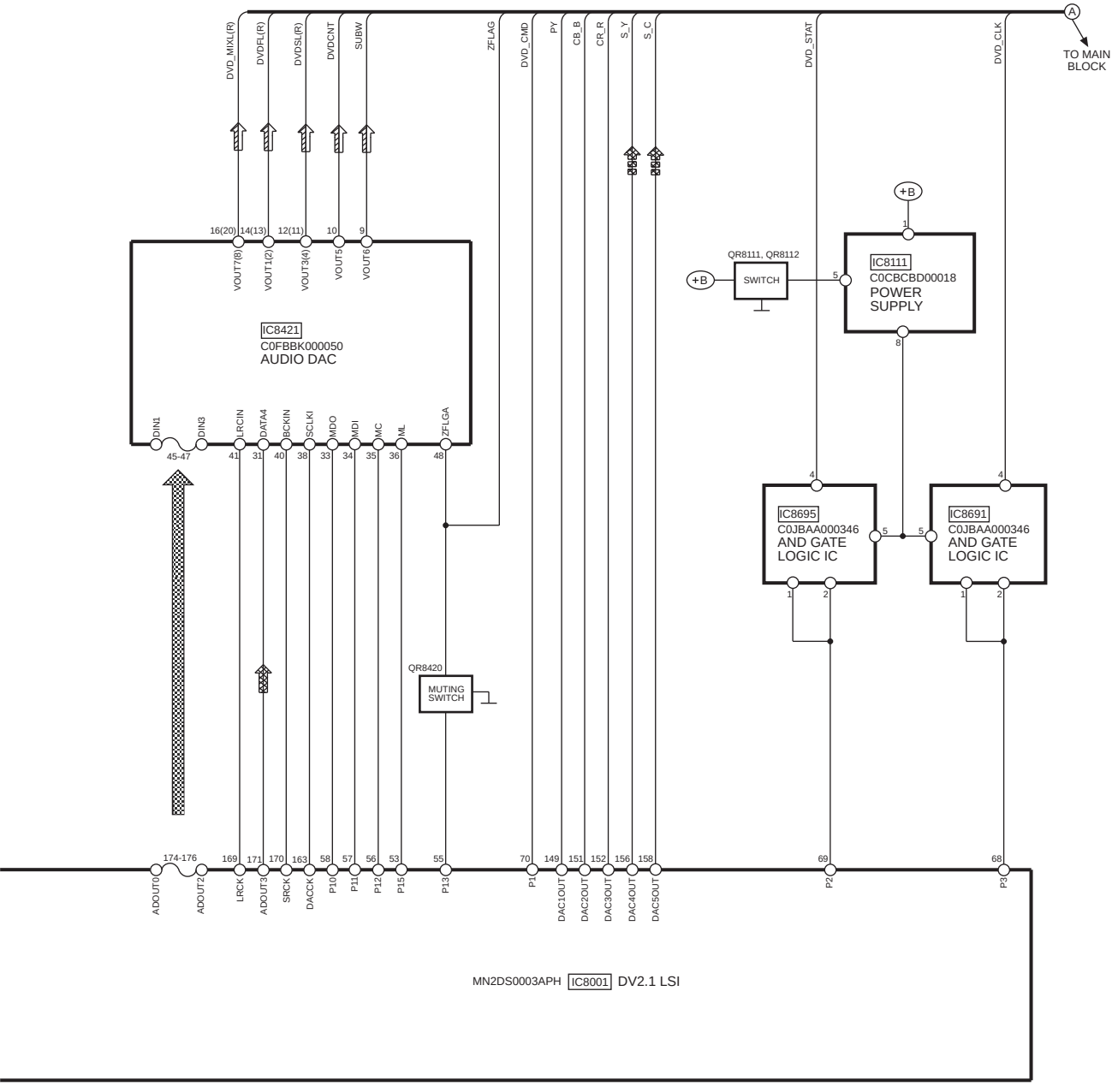

TO ACTIVE SUBWOOFER SB-WA530EB-S
JK2000
VCR AUDIO IN
TV VIDEO IN
VOUT-CR
VOUT-CB
VIDEO OUT
VOUT-Y
S-VIDEO
JK2001
PbF
A DVD MODULE P.C.B.
SIDE:B
FP8101
1
50
CN2005
2
1
18
19
TO TUNER PACK
10
1
CN2002
B MAIN P.C.B.
FP8201
6 1
TO SPINDLE MOTOR
CN2004
49 50
47 48
3 4
1 2
H2000
1
7
PbF
JK1001
CN1001
19
18
2
1
D SCART P.C.B.
AV OUT
CN2008
1 9
2 10
CN2009
18 2
19 1
PbF


OPTICAL PICKUP
19 1
18 2
CN6008
E HEADPHONE P.C.B.
CN6032
10
9
2
1
1 25
2 26
FP8501
PbF
FL6000
VR6000
VOLUME
A DVD MODULE P.C.B.
SIDE:A
JK6002
HEADPHONE
Z6000
SENSOR
PbF
PbF
C PANEL P.C.B.
F CD TRAY
LOADING P.C.B.
CN901
1 7

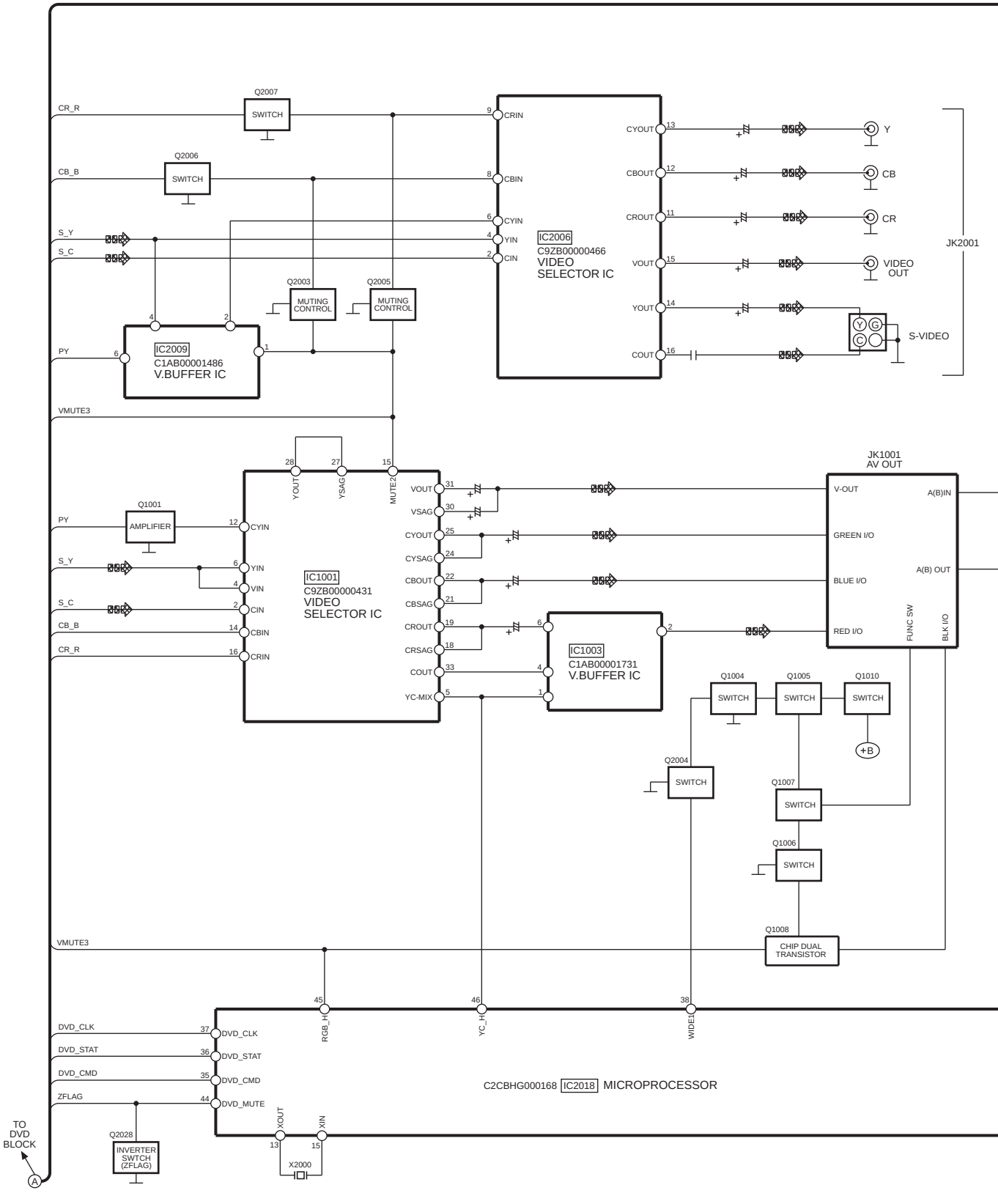

OPTICAL PICKUP
HFM
LDU
OUT
LD(DVD)
LD(CD)
VCC
SW
1M
SUB1
SUB2
VREF
RF
FE1
FE2
TC
TD
TB
TA
TRACKING COIL
FOCUS COIL
SPINDLE MOTOR UNIT
HFN
LDDVD
LDCD
SUBSEL
PIN(CD)
PIN(DVD)
VREF2 (RF-)
FE1(DVD/CD)
FE2(DVD/CD)
TC(DV/D)
TD(DV/D)
TB(DV/D)
TA(DV/D)
T-
T+
F-
F+
TRVM+
TRVM-
SPM+
SPM-
TRV_INNER_SW
Q8552
Q8562
Q8551
Q8561
SWITCH
QR8571
+B
SUPPLY CONTROL SWITCH
IC8251
C0GBG0000048
MOTOR DRIVE
V01-
V01+
V02-
V02+
V04+
V04-
V03+
V03-
OPIN-
OPOUT
BIAS
OPIN+
LDIN
BIAS2
TRIN
VIN3
MUTE12
MUTE4
MUTE3
VIN1
LDCNT
VIN2
DRV3
LPC01
AD0
LPC02
DRV7
LPC2
LPC1
VIN9
VIN5
VIN10
VIN6
VREFH
RFINN
RFINP
VIN7
VIN8
VIN3
VIN3RF
VIN4
VIN4RF
VIN2
VIN2RF
VIN1
VIN1RF
DRV1
DRV8
MUTE3
VCOF/AD4
PWM1
AD2
PWM0
VHALF
DRV0
AD1
DRV6
MN2DS0003APH
IC8001
DV2.1 LSI
OSCO
OSCI
X8621
P9
P8
IC8611
C3EBGC000044
EEPROM
(NOT SUPPLIED)

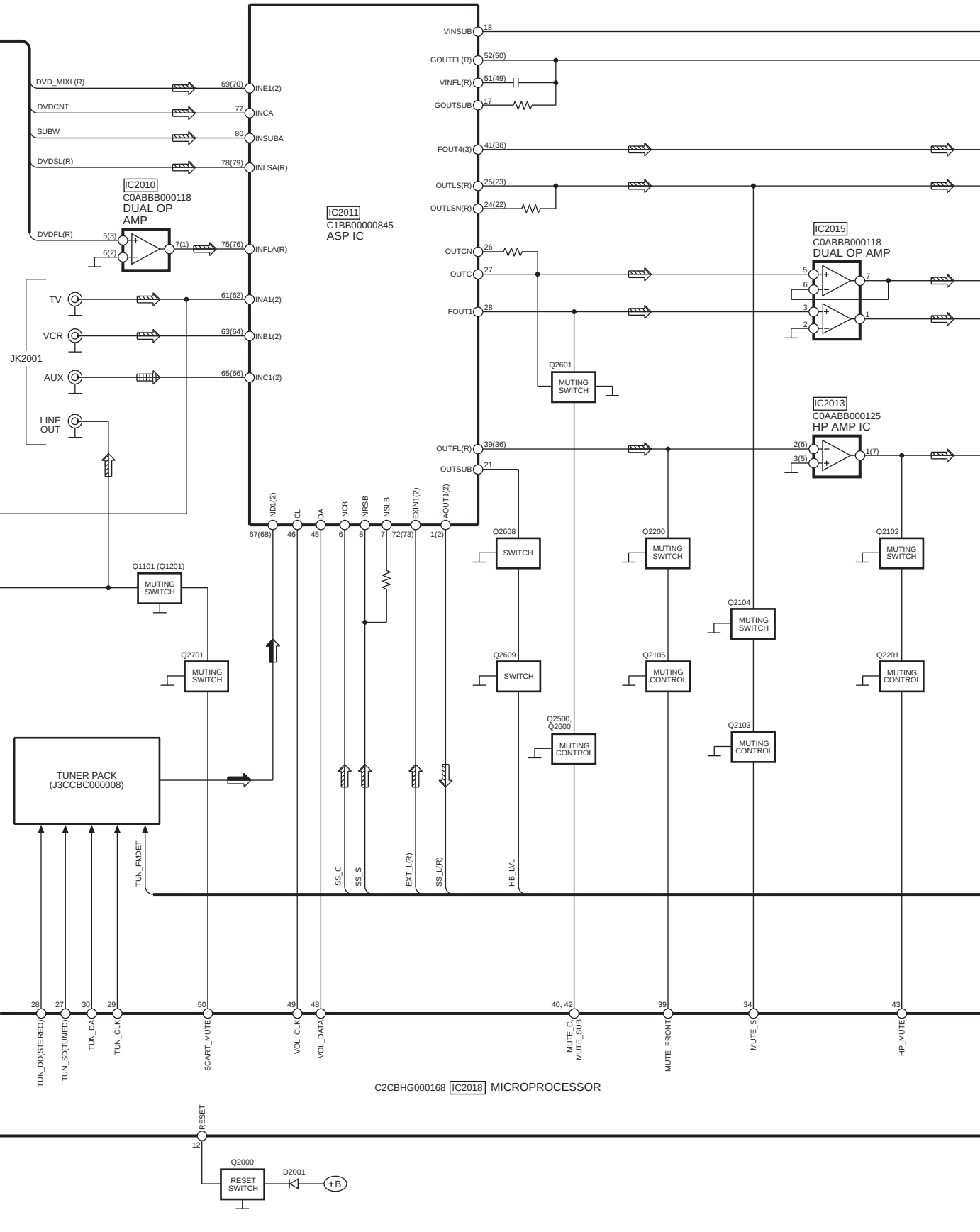


MN2DS0003APH IC8001 DV2.1 LSI



MN2DS0003APH IC8001 DV2.1 LSI


Q2007
SWITCH
CR_R
Q2006
SWITCH
CB_B
S_Y
S_C
Q2003
MUTING CONTROL
Q2005
MUTING CONTROL
IC2009
C1AB00001486
V.BUFFER IC
PY
VMUTE3
IC2006
C9ZB00000466
VIDEO SELECTOR IC
CRIN
CBIN
CYIN
YIN
CIN
CYOUT
CBOUT
CROUT
VOUT
YOUT
COUT
Y
CB
CR
VIDEO OUT
S-VIDEO
JK2001
Q1001
AMPLIFIER
IC1001
C9ZB00000431
VIDEO SELECTOR IC
YOUT
YSAG
MUTE2
VSAG
CYSAG
CBSAG
CRSAG
YC-MIX
VIN
CBIN
CRIN
IC1003
C1AB00001731
V.BUFFER IC
JK1001
AV OUT
V-OUT
GREEN I/O
BLUE I/O
RED I/O
A(B)IN
A(B) OUT
FUNC SW
BLK I/O
Q1004
SWITCH
Q1005
SWITCH
Q1010
SWITCH
+B
Q2004
SWITCH
Q1007
SWITCH
Q1006
SWITCH
Q1008
CHIP DUAL TRANSISTOR
RGB_H
YC_H
WIDE
DVD_CLK
DVD_STAT
DVD_CMD
ZFLAG
DVD_MUTE
XOUT
XIN
X2000
Q2028
INVERTER SWTCH (ZFLAG)
TO DVD BLOCK
A
C2CBHG000168 IC2018 MICROPROCESSOR


IC2010
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DUAL OP AMP
IC2011
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ASP IC
IC2015
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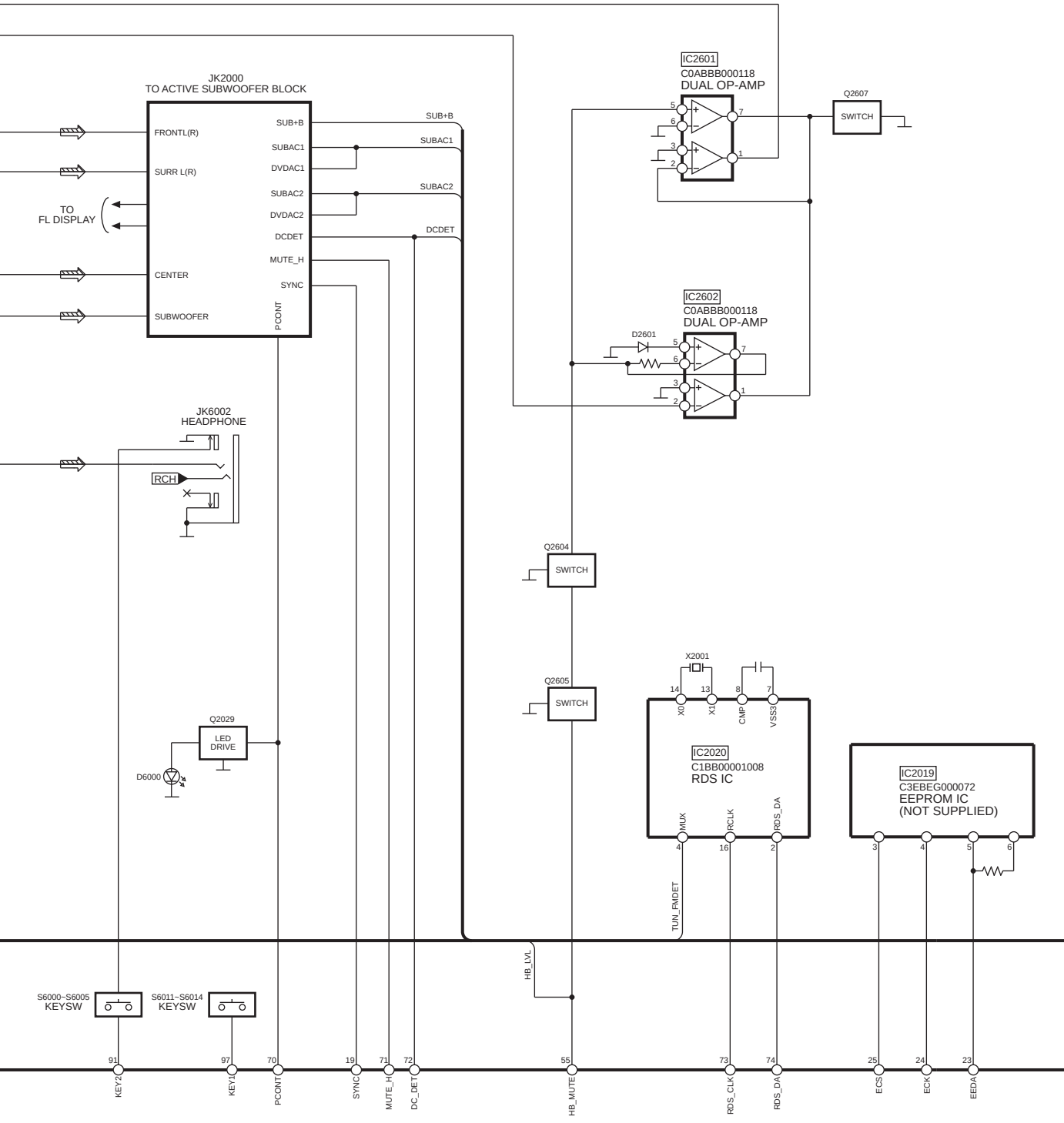
DUAL OP AMP
IC2013
C0AABB000125
HP AMP IC
JK2001
DVD_MIXL(R)
DVDCNT
SUBW
DVDSL(R)
DVDFL(R)
TV
VCR
AUX
LINE OUT
INE1(2)
INCA
INSUBA
INLSA(R)
INFLA(R)
INA1(2)
INB1(2)
INC1(2)
VINSUB
GOUTFL(R)
VINFL(R)
GOUTSUB
FOUT4(3)
OUTLS(R)
OUTLSN(R)
OUTCN
OUTC
FOUT1
OUTFL(R)
OUTSUB
IND1(2)
CL
DA
INCB
INRSB
INSLB
EXIN1(2)
AOUT1(2)
Q2601
MUTING SWITCH
Q2608
SWITCH
Q2609
SWITCH
Q2200
MUTING SWITCH
Q2105
MUTING CONTROL
Q2102
MUTING SWITCH
Q2201
MUTING CONTROL
Q2104
MUTING SWITCH
Q2103
MUTING CONTROL
Q2500, Q2600
MUTING CONTROL
Q1101 (Q1201)
MUTING SWITCH
Q2701
MUTING SWITCH
TUNER PACK
(J3CCBC000008)
TUN_FMDET
SS_C
SS_S
EXT_L(R)
SS_L(R)
HB_LVL
TUN_DO(STEREO)
TUN_SD(TUNED)
TUN_DA
TUN_CLK
SCART_MUTE
VOL_CLK
VOL_DATA
MUTE_C
MUTE_SUB
MUTE_FRONT
MUTE_S
HP_MUTE
C2CBHG000168 IC2018 MICROPROCESSOR
RESET
Q2000
RESET SWITCH
D2001
+B



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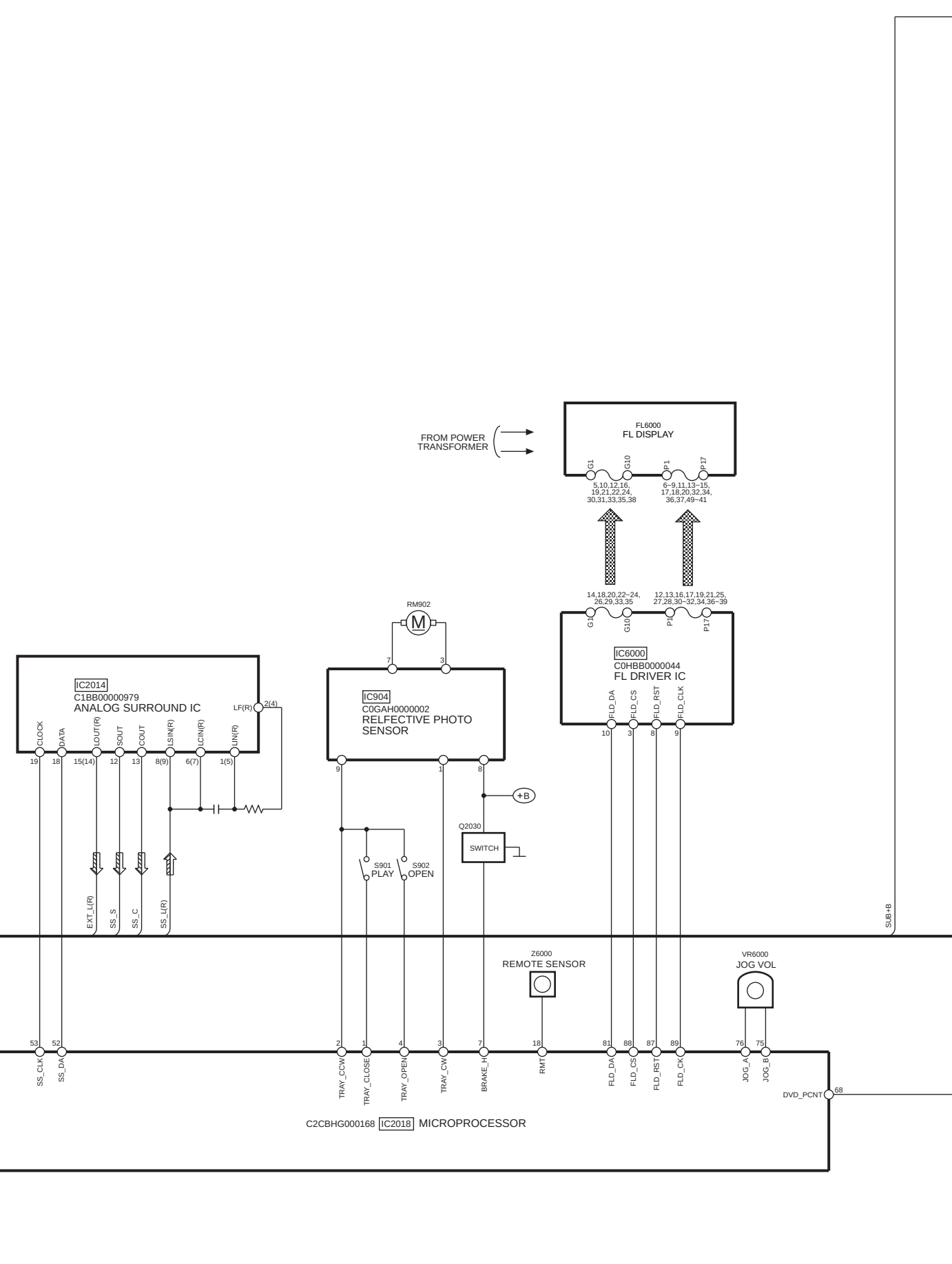
FROM POWER TRANSFORMER
FL6000
FL DISPLAY
G1
G10
P1
P17
5,10,12,16, 19,21,22,24, 30,31,33,35,38
6~9,11,13~15, 17,18,20,32,34, 36,37,49~41
14,18,20,22~24, 26,29,33,35
12,13,16,17,19,21,25, 27,28,30~32,34,36~39
IC6000
C0HBB0000044
FL DRIVER IC
FLD_DA
FLD_CS
FLD_RST
FLD_CLK
RM902
IC904
C0GAH0000002
RELFECTIVE PHOTO SENSOR
+B
Q2030
SWITCH
S901
PLAY
S902
OPEN
IC2014
C1BB00000979
ANALOG SURROUND IC
LF(R)
2(4)
CLOCK
DATA
IOUT(R)
SOUT
COUT
ISIN(R)
ICIN(R)
IIN(R)
EXT_L(R)
SS_S
SS_C
SS_L(R)
SUB+B
Z6000
REMOTE SENSOR
VR6000
JOG VOL
SS_CLK
SS_DA
TRAY_CCW
TRAY_CLOSE
TRAY_OPEN
TRAY_CW
BRAKE_H
RMT
FLD_DA
FLD_CS
FLD_RST
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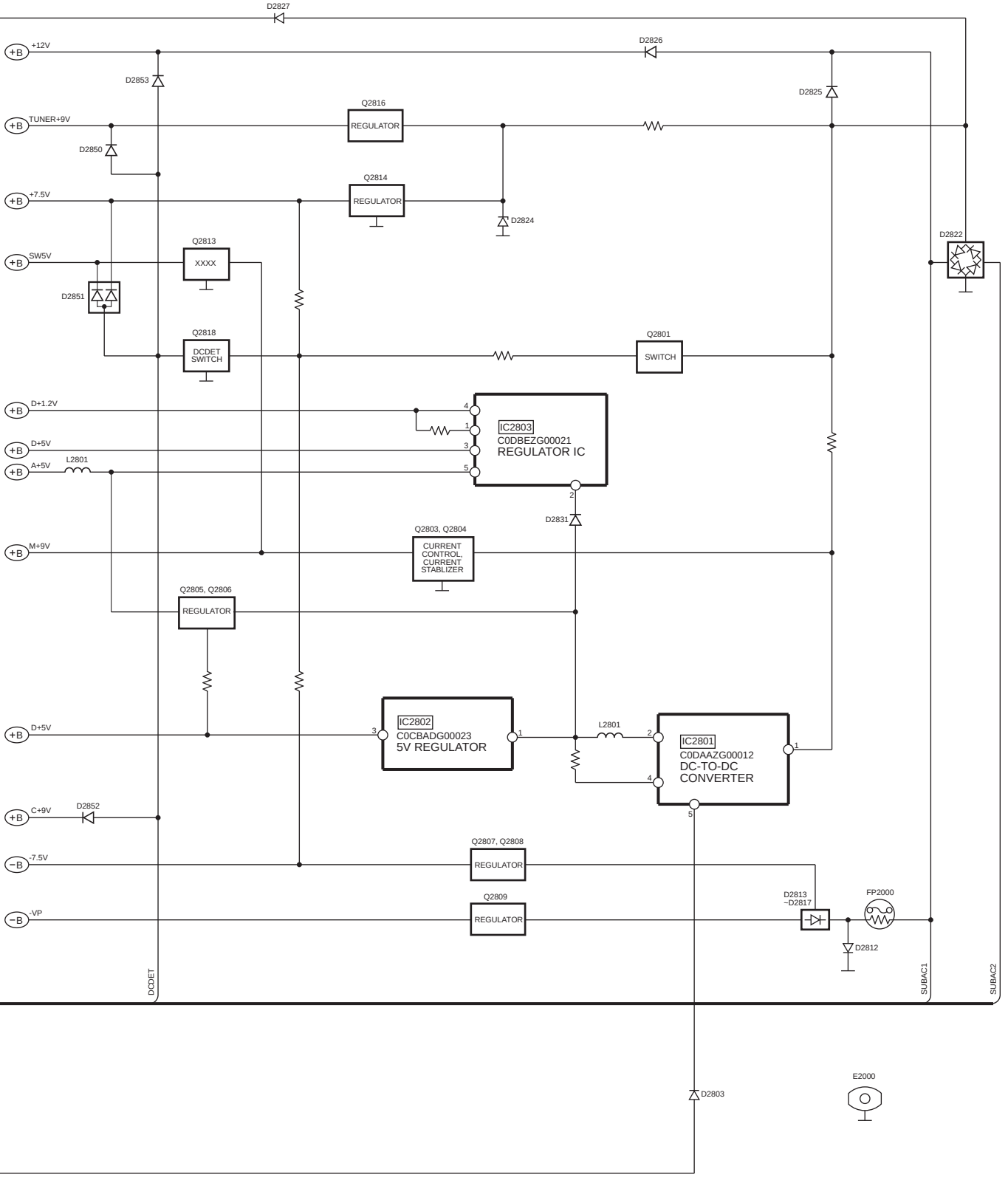
JOG_A
JOG_B
DVD_PCNT
C2CBHG000168 IC2018 MICROPROCESSOR



SIGNAL LINES

: MAIN SIGNAL LINE	: DVD AUDIO SIGNAL LINE	: AUX SIGNAL LINE
: CD-DA (AUDIO /VIDEO) SIGNAL LINE	: DVD VIDEO SIGNAL LINE	: FM/AM SIGNAL LINE
( ) Indicates the Pin No. of Right Channel.	NOTE : Signal Lines are applicable to the Left Channel only.	

Disc	Logo	Indication in these operating instructions	Remarks
DVD-RAM	DVD RAM RAM4.7	RAM	Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard Version 1.0. ● To play JPEG files, select "Play as Data Disc" in Other Menu.
DVD-Audio	DVD AUDIO	DVD-A	—
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select "Play as DVD-Video" in Other Menu.
DVD-Video	DVD VIDEO DVD VIDEO	DVD-V	—
DVD-R (DVD-Video)/ DVD-RW (DVD-Video)	DVD R R4.7 DVD RW		Discs recorded and finalized* on DVD video recorders or DVD video cameras.
+R (Video)/ +RW (Video)	—		Discs recorded and finalized* on DVD video recorders or DVD video cameras.
Video CD	COMPACT disc DIGITAL VIDEO	VCD	—
SVCD	COMPACT disc SUPER VIDEO		Conforming to IEC62107
CD	COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT	CD	This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high level signals). HDCD-encoded CD's sound better because they are encoded with 20 bits, as compared with 16 bits for all other CD's.
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	● This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the sessions or finalize* the disc after recording. ● **HighMAT discs** WMA, MP3 or JPEG files only. To play without using the HighMAT function, select "Play as Data Disc" in Other Menu. ● WMA This unit does not support Multiple Bit Rate (MBR: a file that contains the same content encoded at several different bit rates).

* A process that allows play on compatible equipment.

● It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, SACD, DivX Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

■ Audio format of DVD's

This unit automatically recognizes and decodes discs with these symbols.

DOLBY DIGITAL

DIGITAL dts SURROUND

■ Video systems

– This unit can play PAL and NTSC, but your television must match the system used on the disc.
– PAL discs cannot be correctly viewed on an NTSC television.
– This unit can convert NTSC signals to PAL 60 for viewing on a PAL television.

Disc handling

■ To clean discs

Wipe with a damp cloth and then wipe dry.

■ Disc handling precautions

● Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
● Do not write on the label side with a ball-point pen or other writing instrument.
● Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
● Do not use scratch-proof protectors or covers.
● Do not use the following discs:
  – Discs with exposed adhesive from removed stickers or labels (rented discs, etc.).
  – Discs that are badly warped or cracked.
  – Irregularly shaped discs, such as heart shapes.

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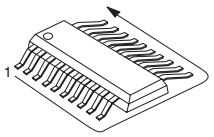
C3ABPG000133 (54p)



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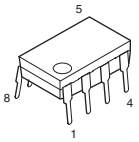

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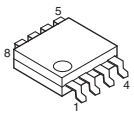

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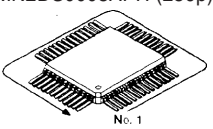
MN2DS0003APH (256p)



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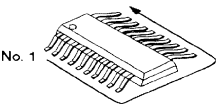

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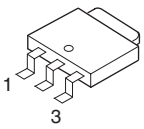

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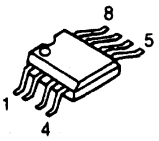

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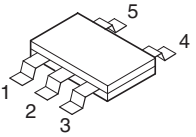
C0JBAA000346 (5p)



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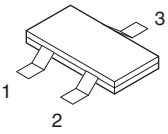

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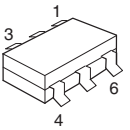

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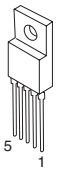

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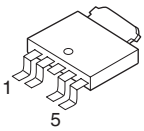

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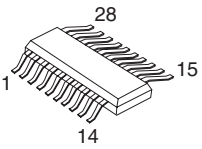

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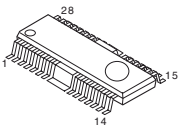

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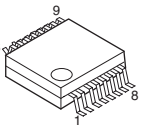

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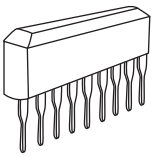

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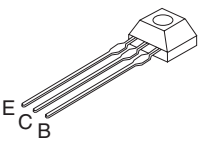

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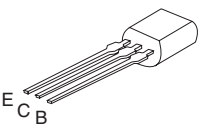

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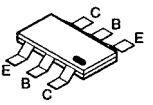

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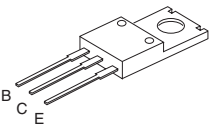

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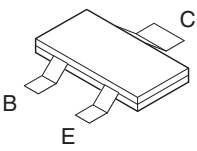

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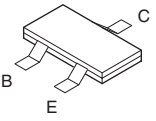

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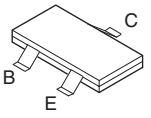

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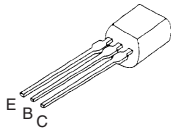

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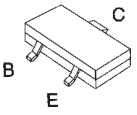

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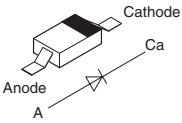

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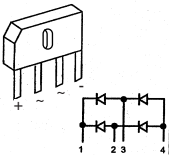

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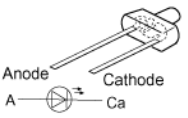

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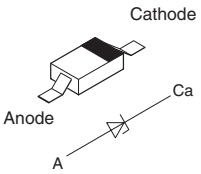
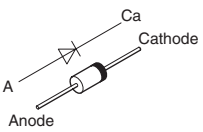
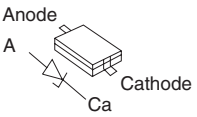


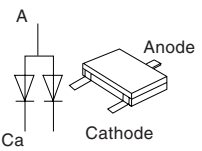
B0EAKM000117



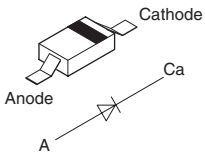
B0ECKM000016



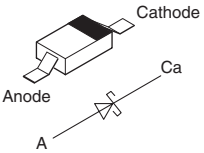
B0ADCJ000020



B0ACCK000005
B0JCPD000025

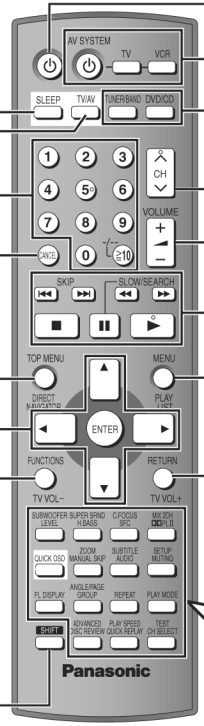


MA2J72800L



Control reference guide

The illustrations show SC-HT530.



Turn the unit on/off

Television and Video cassette recorder operations

Select the source
TUNER/BAND, DVD/CD

Channel select

Adjust the volume

Basic operations for play

Show a disc menu or play list

Return to previous screen or television volume up

Sleep timer
Switch the television's video input mode

Select television channels and disc's title numbers etc./Enter numbers

Cancel

Show a disc top menu or program list

Select or register menu items on the television screen, Frame-by-frame

Show on-screen menu, Display RDS text data or television volume down

To use functions labeled in orange:
While pressing [SHIFT], press the corresponding button.

SUBWOOFER LEVEL	SUPER SRND H.BASS	C.FOCUS SFC	MIX 2CH ◻◻PL II
QUICK OSD	ZOOM MANUAL SKIP	SUBTITLE AUDIO	SETUP MUTING
FL DISPLAY	ANGLE/PAGE GROUP	REPEAT	PLAY MODE
	ADVANCED DISC REVIEW	PLAY SPEED QUICK REPLAY	TEST CH SELECT

AC supply indicator [AC IN]
This indicator lights when the unit is connected to the AC mains supply.

Standby/on indicator
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

INPUT SELECTOR
DVD/CD→FM→AM→TV→VCR→ AUX→Return to DVD/CD

⏏OPEN/CLOSE
Open/Close the disc tray

I◄◄/◄◄, ►►/►►I/∨ TUNING ∧
Skipping or slow-search play/ Select the radio stations

Remote control signal sensor

PHONES
Connect headphones

VOLUME
Turn up/down the volume

PROGRESSIVE
Enjoy progressive video

RDS
Display RDS text data

H.BASS
Turn the bass sound enhancement on/off

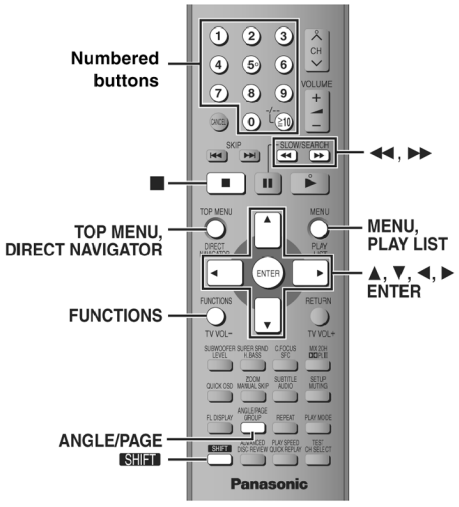
■/TUNE MODE
Stop playing/ Select the tuning mode

❚❚/FM MODE
Pause/Adjust the FM reception condition

►/MEMORY
Play discs/Memorize the receiving radio stations

Standby/on switch [⏻/I]
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

Using navigation menus



Playing data discs

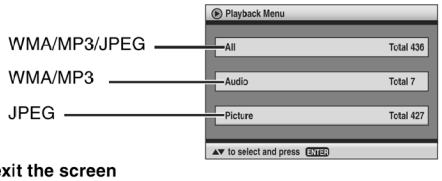
WMA MP3 JPEG

You can play JPEG files on DVD-RAM or play HighMAT discs without using the HighMAT function ("Play as Data Disc" in Other Menu).

- Playing HighMAT™ discs

Playing items in order (Playback Menu)

1 **Press [TOP MENU].**



- **To exit the screen**
  Press [TOP MENU].

2 **Press [▲, ▼] to select "All", "Audio" or "Picture" and press [ENTER].**

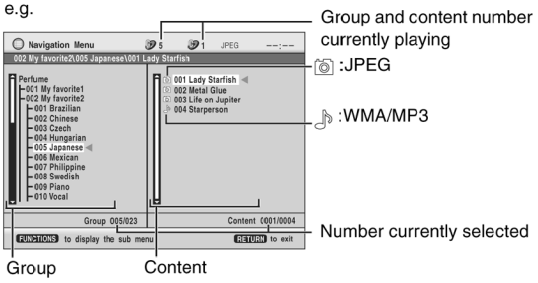
Playing from the selected item (Navigation Menu)

1 **Press [MENU].**

2 **Press [▲, ▼, ◀, ▶] to select the group and press [ENTER].**

3 **To play content in the group in order**
Press [ENTER].
To start play from the selected content
Press [▲, ▼] to select and [ENTER].

e.g.



- Press [SHIFT]+[ANGLE/PAGE] to skip page by page in the group or content field.
- **To enjoy listening to WMA/MP3 contents while showing a JPEG image on the screen**
  Select a JPEG file first, and then select audio contents.
  (The opposite order is not effective.)
- **To exit the screen**
  Press [MENU].

■ Using the submenu

1 **While the menu is displayed**
Press [FUNCTIONS].

2 **Press [▲, ▼] to select an item and press [ENTER].**
Items shown differ depending on the type of disc.

✓Multi	Groups and contents are displayed.
List	Contents only
Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To go to next group WMA MP3
Previous group	To go to previous group WMA MP3
All	WMA/MP3 and JPEG
Audio	WMA/MP3 only
Picture	JPEG only
Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (➜ below)

■ Searching by a content or group title

Highlight a group title to search the group, or a content title to search its content.

1 **While the submenu is displayed (➜ above)**
Press [▲, ▼] to select "Find" and press [ENTER].

2 **Press [▲, ▼] to select a character and press [ENTER].**
- Repeat to enter another character.
- Lower case is also searched.
- Press [◀◀, ▶▶] to skip between A, E, I, O and U.
- Press [◀] to erase a character.
- Leave the asterisk (*) when you search for the titles including the character you enter.
- Erase the asterisk (*) to search for the titles starting with the character you enter. To add the asterisk (*) again, display the submenu again and select "Find".

3 **Press [▶] to select "Find" and press [ENTER].**
The search result screen appears.

4 **Press [▲, ▼] to select the content or group and press [ENTER].**

Playing from the selected track in the CD

CD

Titles appear with CD Text disc playback.

1 **Press [TOP MENU] or [MENU].**

e.g. CD text

2 **Press [▲, ▼] to select the track and press [ENTER].**
- Press [SHIFT]+[ANGLE/PAGE] to skip page by page.
- Press [FUNCTIONS] to show the playback condition and current position.

- **To exit the screen**
  Press [TOP MENU] or [MENU].

Tips for making WMA/MP3 and JPEG discs (For CD-R, CD-RW)

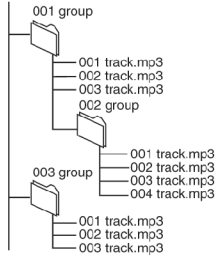
- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- When there are more than 8 groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

Naming folders and files
(Files are treated as content and folders are treated as groups on this unit.)

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Files must have the extension:
".WMA" or ".wma"
".MP3" or ".mp3"
".JPG", ".jpg", ".JPEG" or ".jpeg"

e.g. MP3



WMA

- You cannot play WMA files that are copy protected.
- This unit does not support Multiple Bit Rate (MBR).

MP3

- This unit does not support ID3 tags.
- Compatible sampling rates: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz.

JPEG

- To view JPEG files on this unit:
  - Take them on a digital camera that meets the DCF Standard (Design rule for Camera File system) Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture unviewable.
  - Do not alter the files in any way or save them under a different name.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g. TIFF) or play pictures with attached audio.

Language code list

Abkhazian:	6566
Afar:	6565
Afrikaans:	6570
Albanian:	8381
Ameharic:	6577
Arabic:	6582
Armenian:	7289
Assamese:	6583
Aymara:	6588
Azerbaijani:	6590
Bashkir:	6665
Basque:	6985
Bengali; Bangla:	6678
Bhutani:	6890
Bihari:	6672
Breton:	6682
Bulgarian:	6671
Burmese:	7789
Byelorussian:	6669
Cambodian:	7577
Catalan:	6765
Chinese:	9072
Corsican:	6779
Croatian:	7282
Czech:	6783
Danish:	6865
Dutch:	7876
English:	6978
Esperanto:	6979
Estonian:	6984
Faroese:	7079
Fiji:	7074
Finnish:	7073
French:	7082
Frisian:	7089
Galician:	7176
Georgian:	7565
German:	6869
Greek:	6976
Greenlandic:	7576
Guarani:	7178
Gujarati:	7185
Hausa:	7265
Hebrew:	7387
Hindi:	7273
Hungarian:	7285
Icelandic:	7383
Indonesian:	7378
Interlingua:	7365
Irish:	7165
Italian:	7384
Japanese:	7465
Javanese:	7487
Kannada:	7578
Kashmiri:	7583
Kazakh:	7575
Kirghiz:	7589
Korean:	7579
Kurdish:	7585
Laotian:	7679
Latin:	7665
Latvian, Lettish:	7686
Lingala:	7678
Lithuanian:	7684
Macedonian:	7775
Malagasy:	7771
Malay:	7783
Malayalam:	7776
Maltese:	7784
Maori:	7773
Marathi:	7782
Moldavian:	7779
Mongolian:	7778
Nauru:	7865
Nepali:	7869
Norwegian:	7879
Oriya:	7982
Pashto, Pushto:	8083
Persian:	7065
Polish:	8076
Portuguese:	8084
Punjabi:	8065
Quechua:	8185
Rhaeto-Romance:	8277
Romanian:	8279
Russian:	8285
Samoan:	8377
Sanskrit:	8365
Scots Gaelic:	7168
Serbian:	8382
Serbo-Croatian:	8372
Shona:	8378
Sindhi:	8368
Singhalese:	8373
Slovak:	8375
Slovenian:	8376
Somali:	8379
Spanish:	6983
Sundanese:	8385
Swahili:	8387
Swedish:	8386
Tagalog:	8476
Tajik:	8471
Tamil:	8465
Tatar:	8484
Telugu:	8469
Thai:	8472
Tibetan:	6679
Tigrinya:	8473
Tonga:	8479
Turkish:	8482
Turkmen:	8475
Twi:	8487
Ukrainian:	8575
Urdu:	8582
Uzbek:	8590
Vietnamese:	8673
Volapük:	8679
Welsh:	6789
Wolof:	8779
Xhosa:	8872
Yiddish:	7473
Yoruba:	8979
Zulu:	9085

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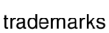

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